

FIG.3 (Prior Art)

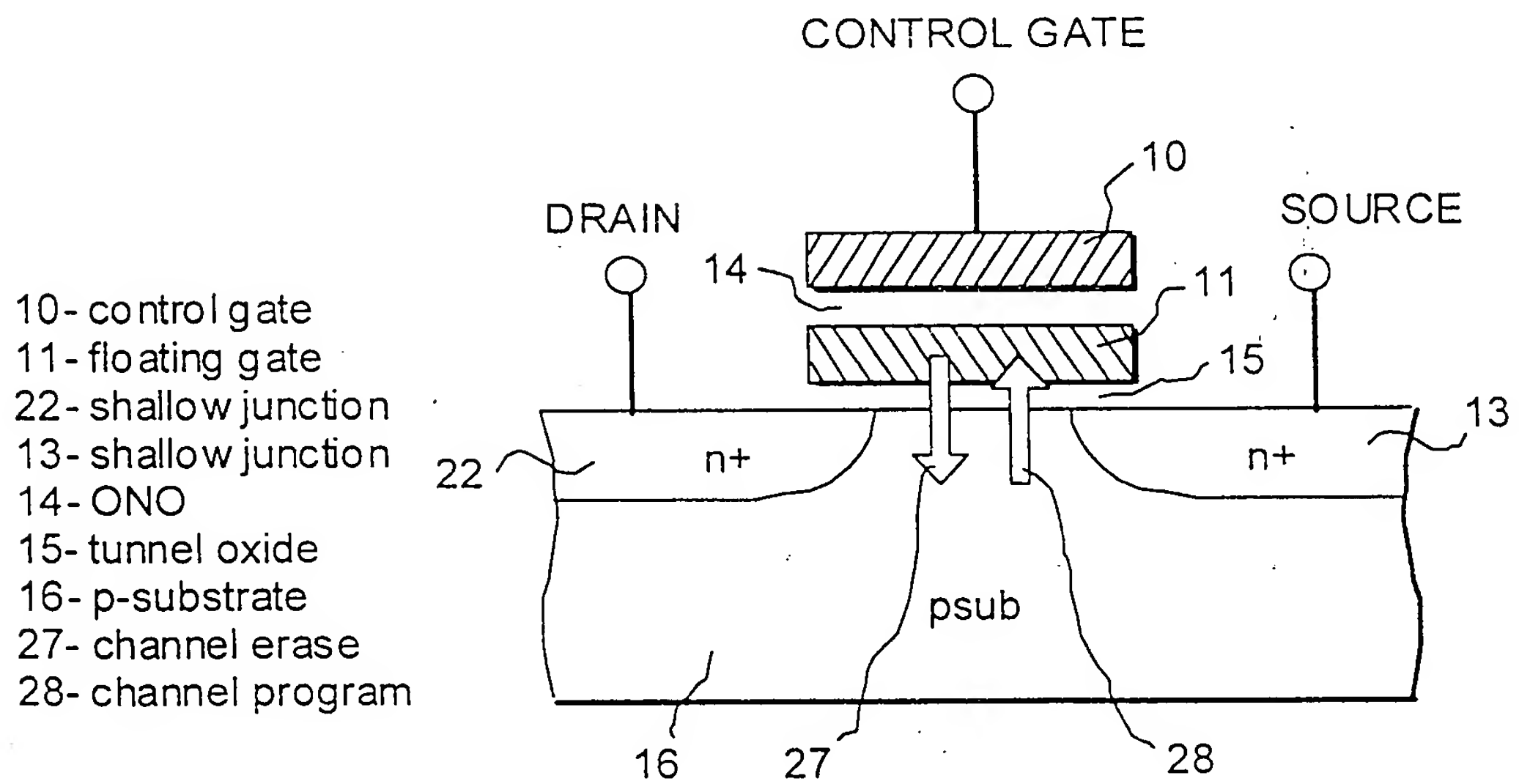
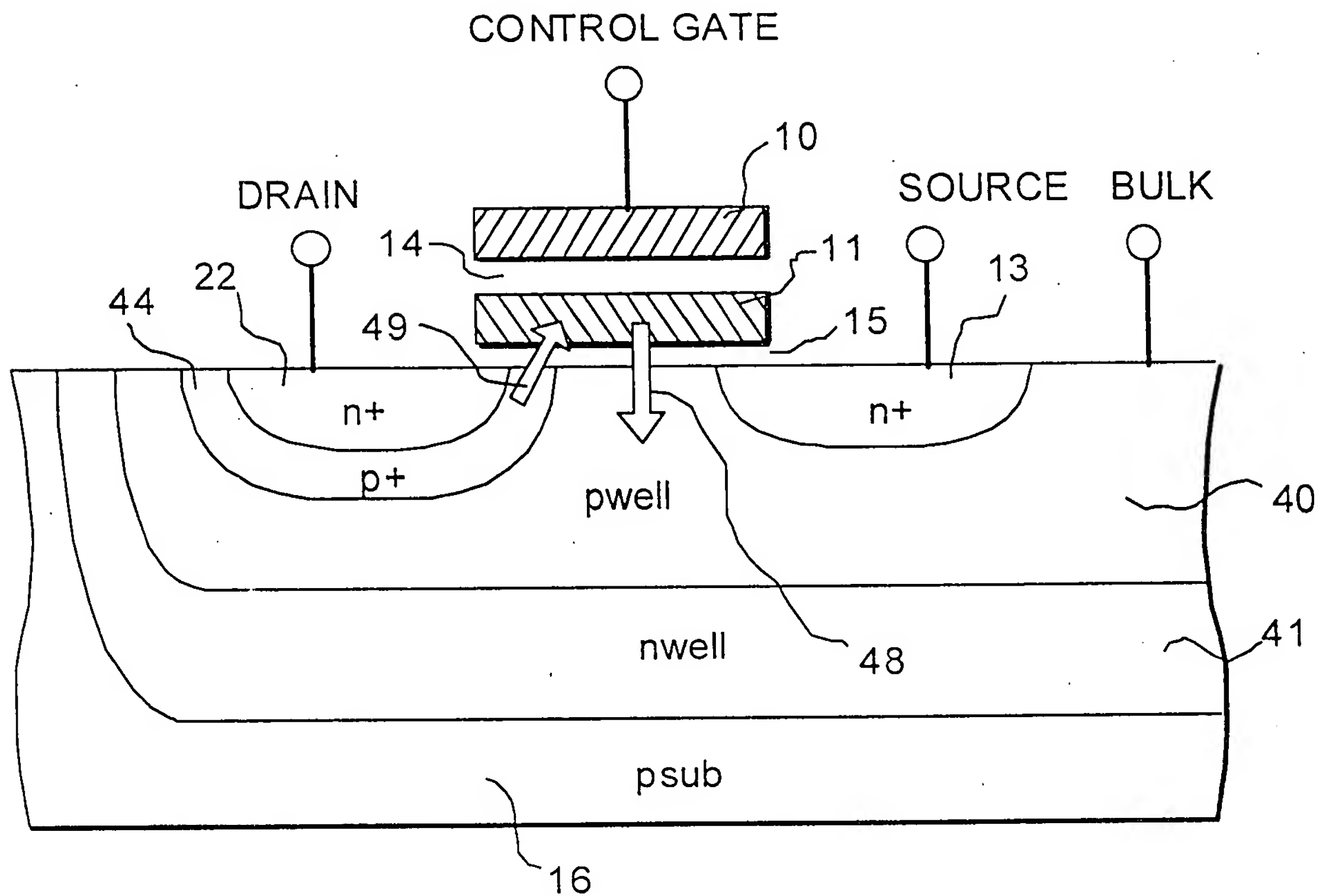


FIG.4 (Prior Art)



- 10- control gate
- 11- floating gate
- 22- shallow junction
- 13- shallow junction
- 44- p+ implant
- 14- ONO
- 15- tunnel oxide
- 38- channel erase
- 49- CHE program
- 40- p-well
- 41- deep n-well
- 16- p-substrate

FIG.5 (Prior Art)

# ETOX NOR Cell on a P-substrate

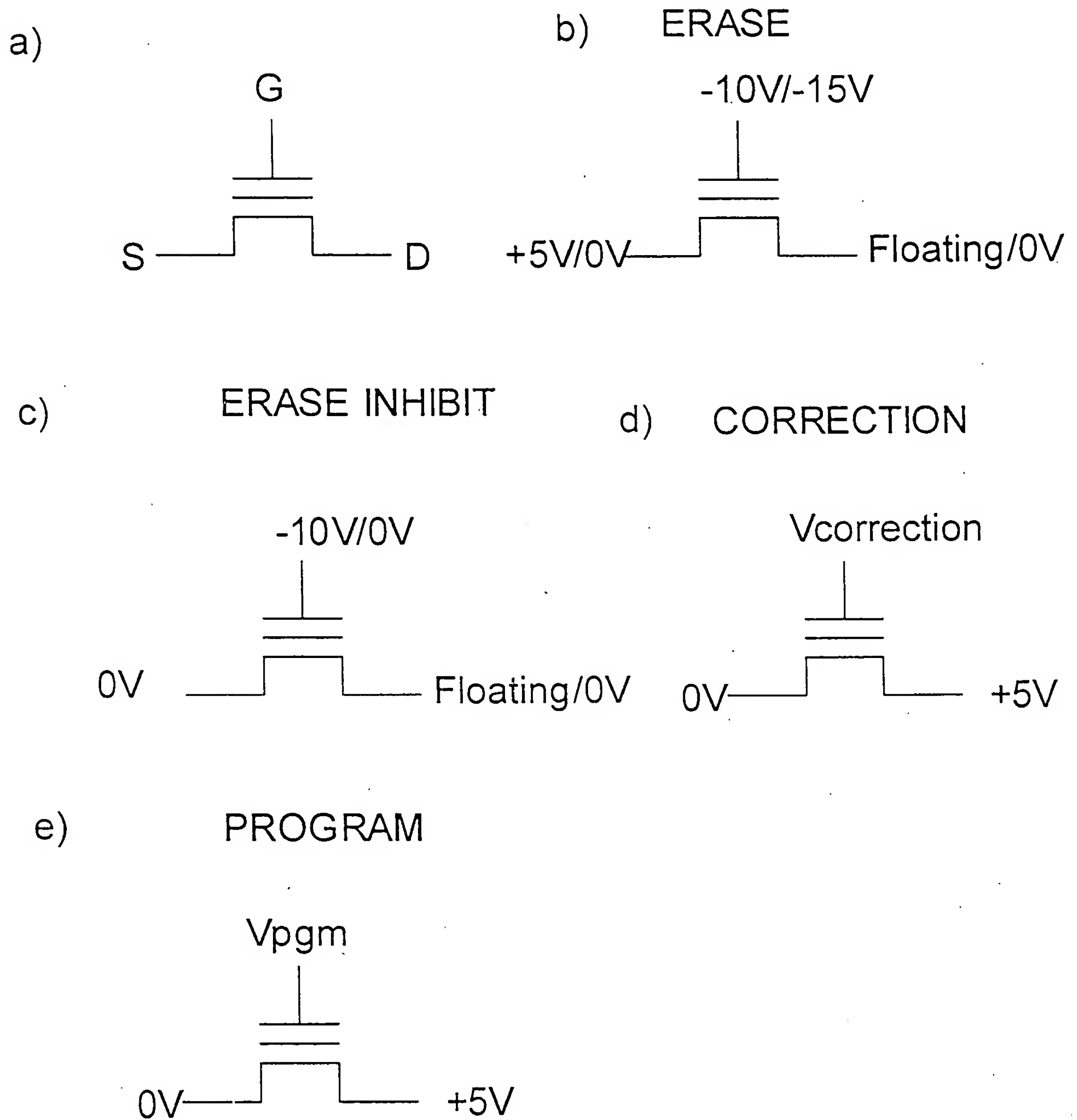
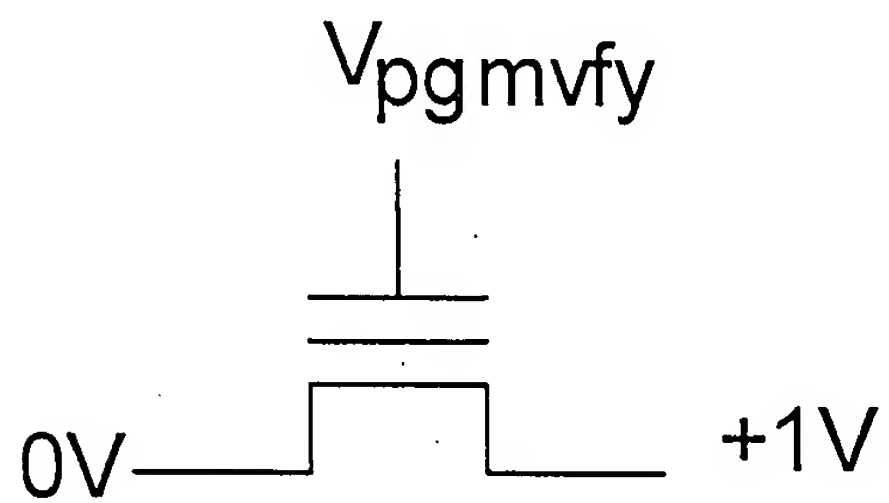


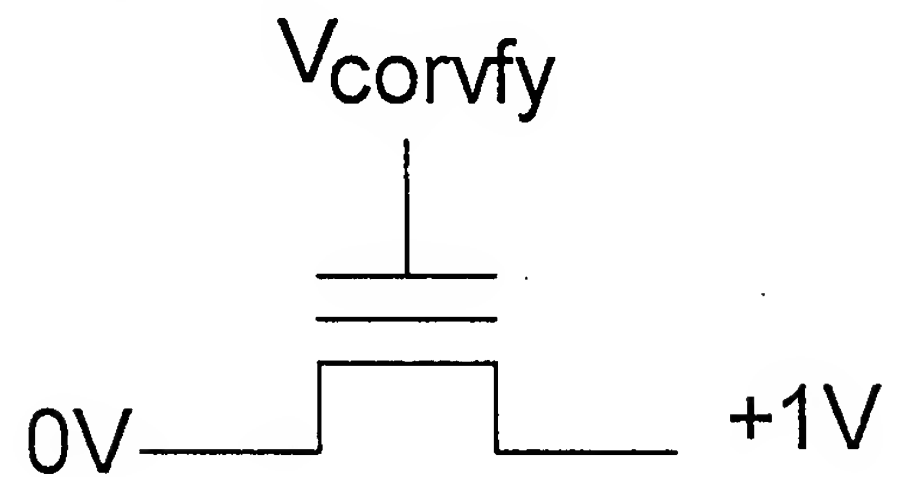
FIG. 6

## ETOX NOR Cell on a P-substrate

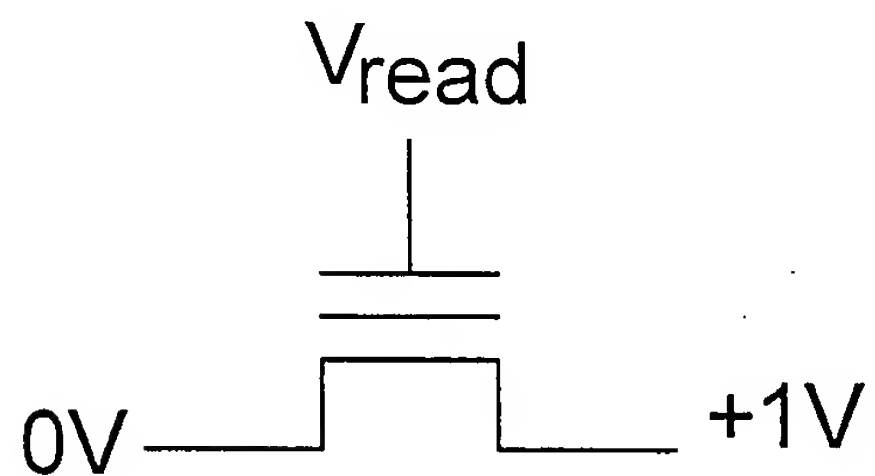
a) PROGRAM VERIFY



b) CORRECTION  
VERIFY



c) READ



d) ERASE VERIFY

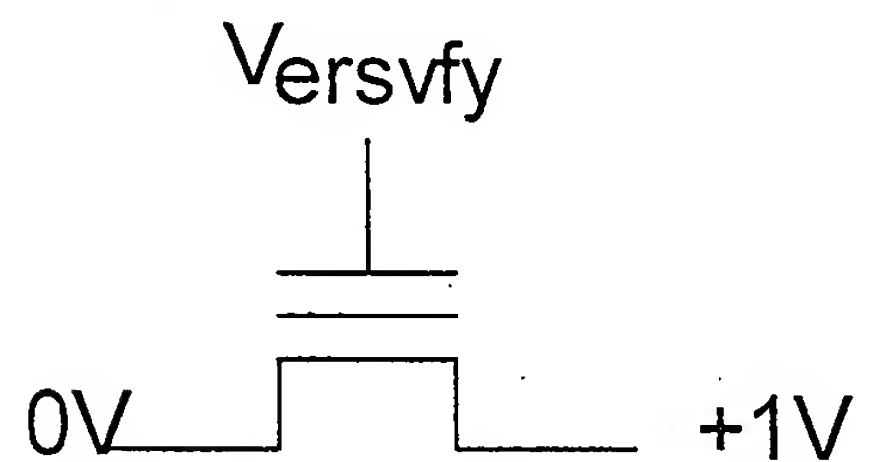


FIG. 7

# ETOX NOR Cell on a P-substrate

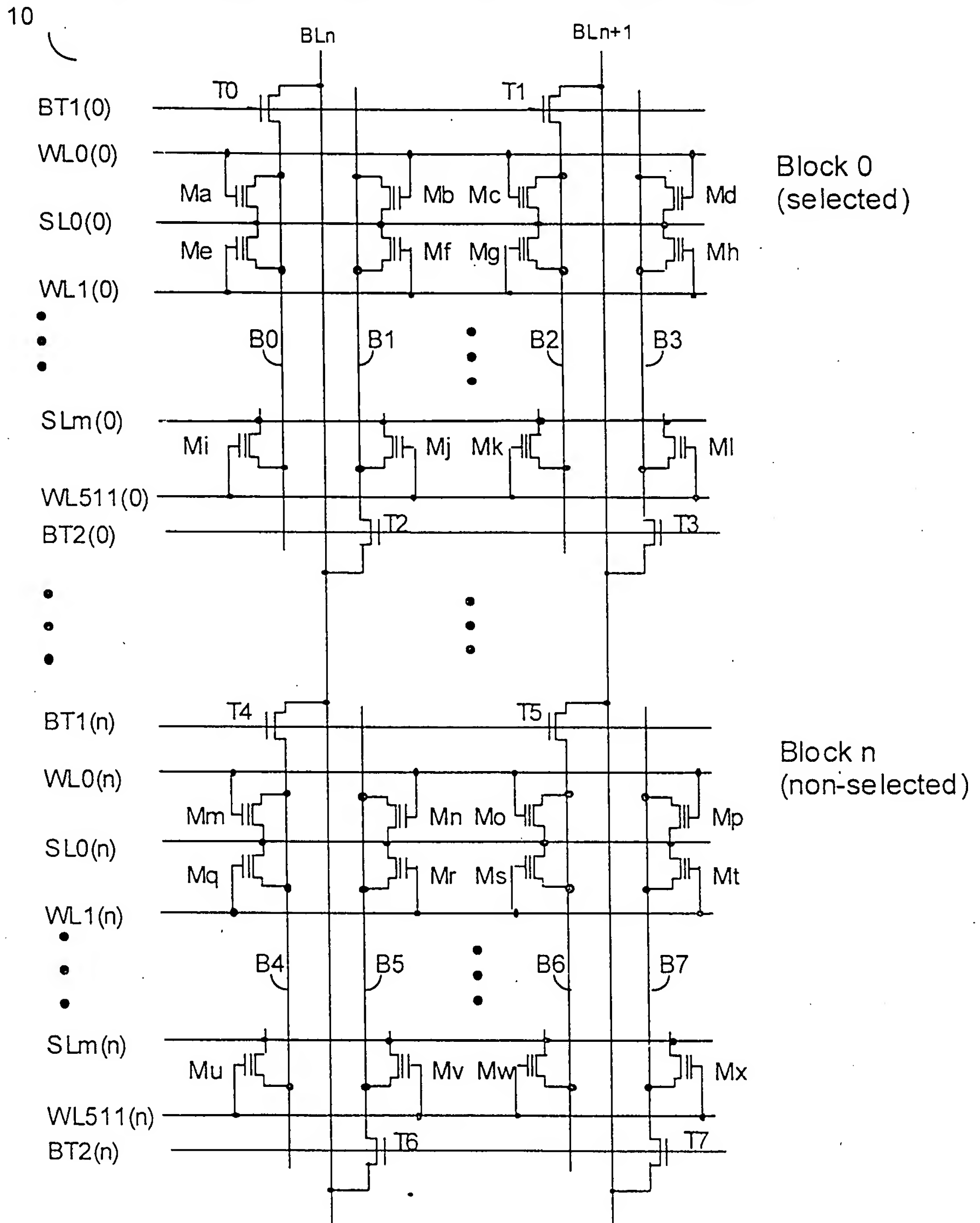


FIG.8

# Block Erase Operations

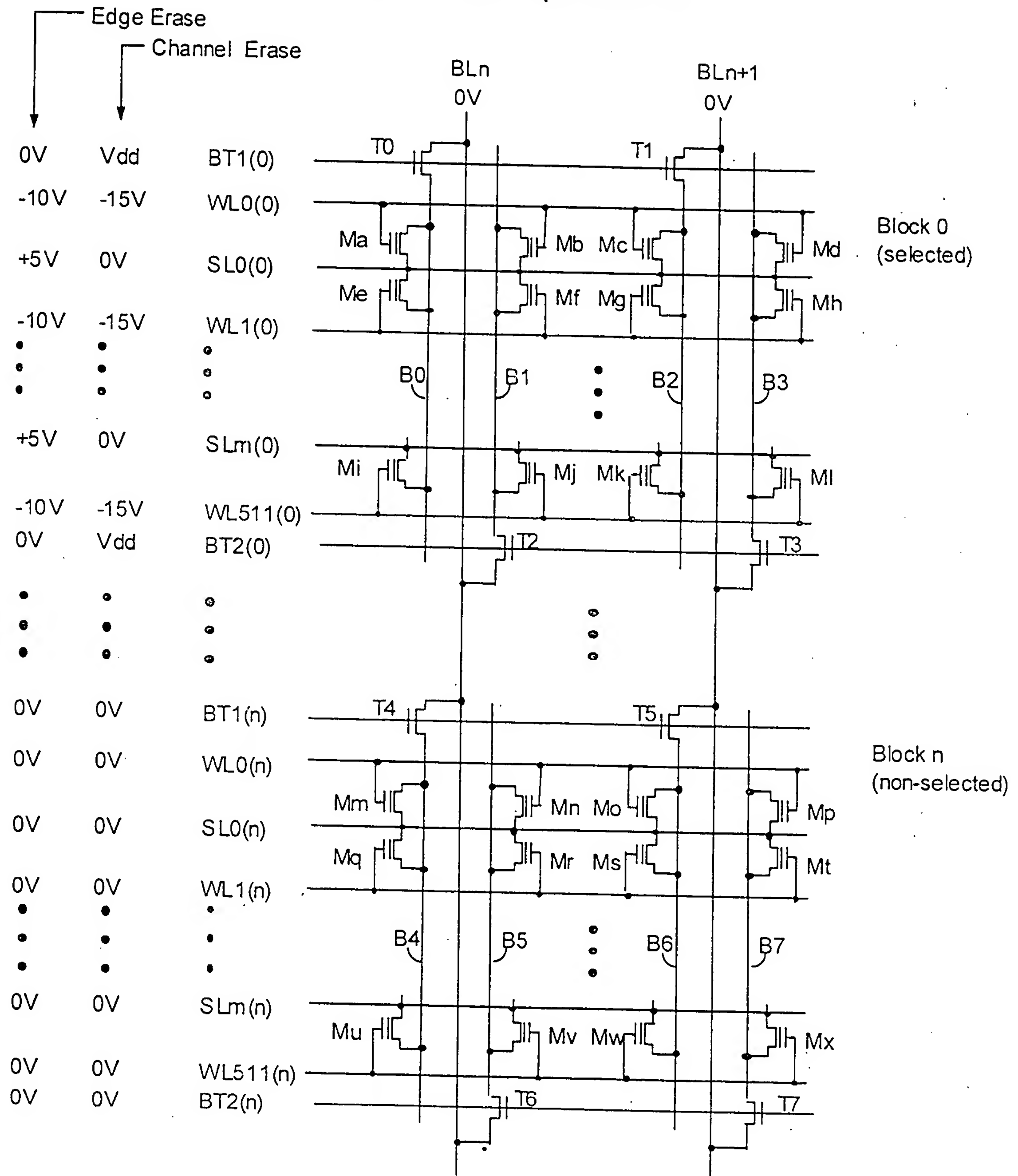


FIG. 9

# Block Erase Verify

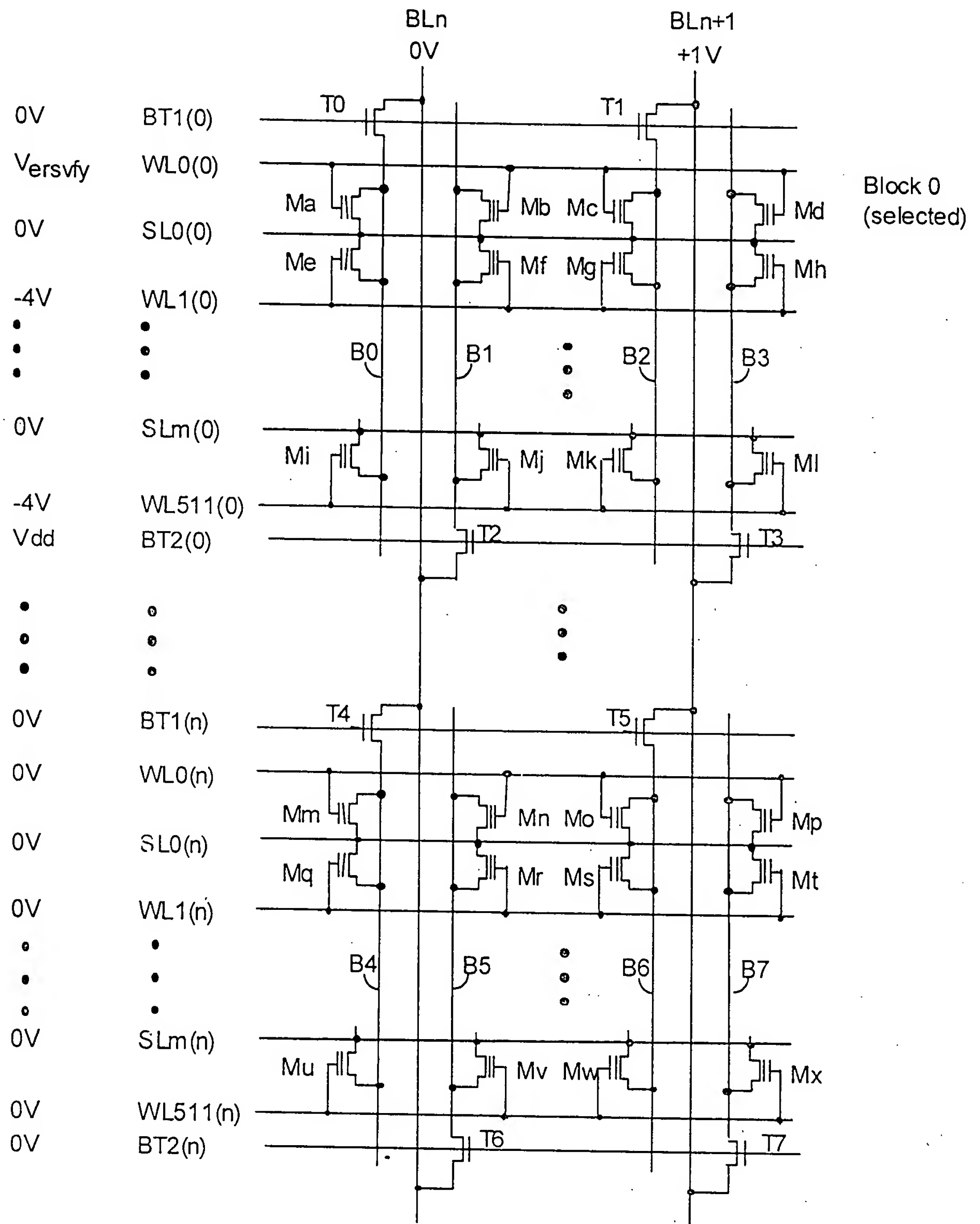


FIG.10



# Erase Inhibit

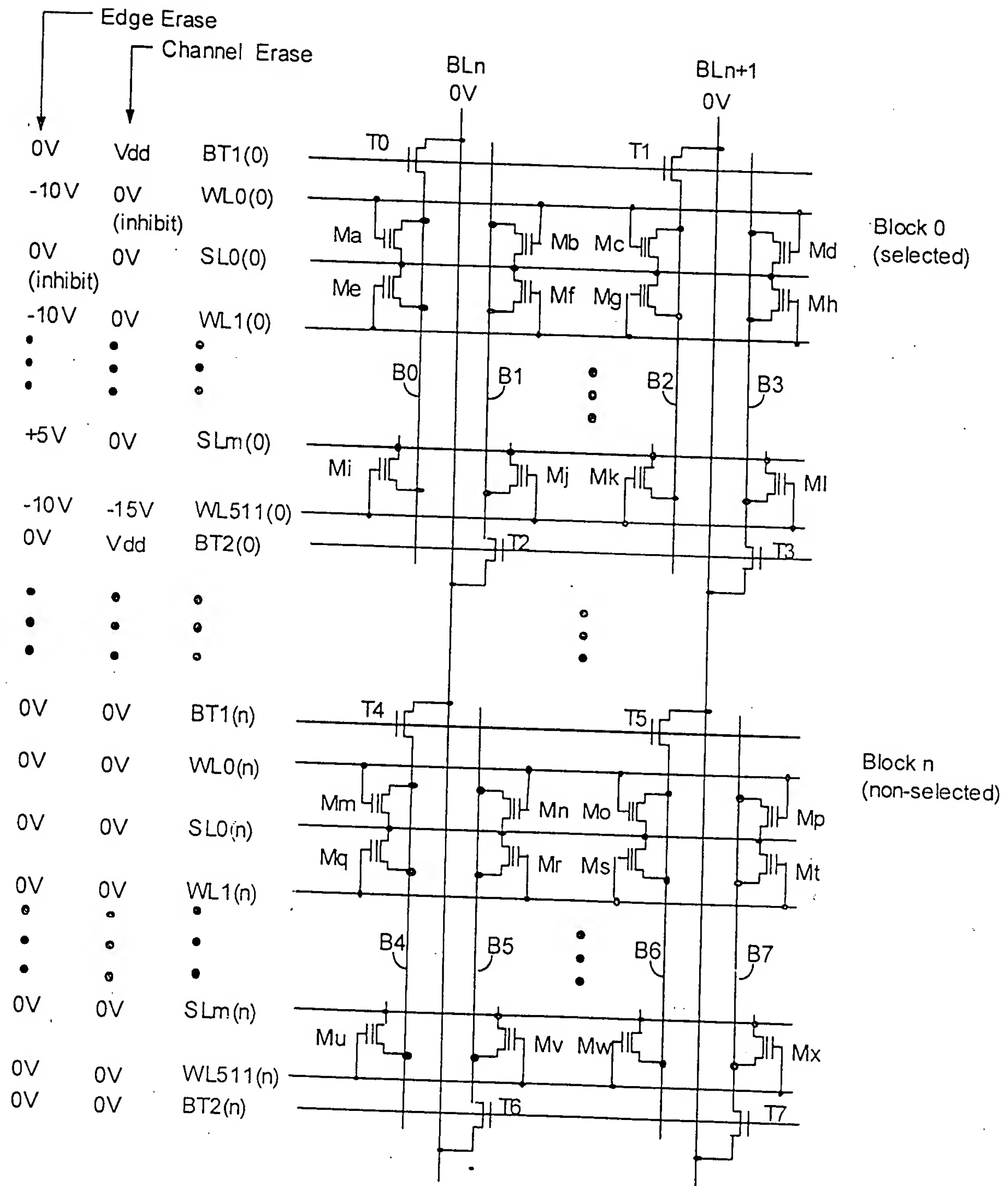


FIG. 11

# Correction Operations

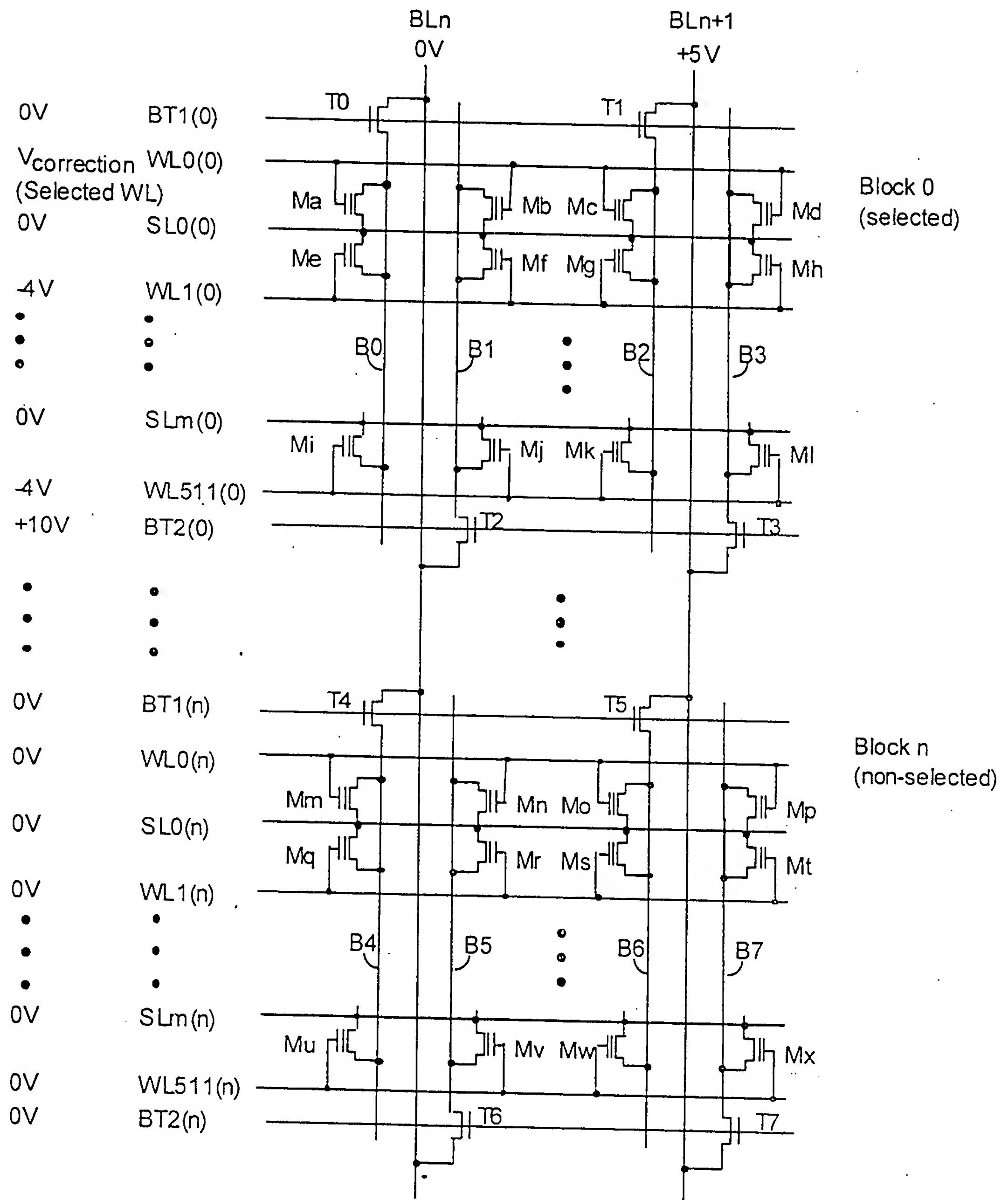


FIG. 12

Correction Verify Operations

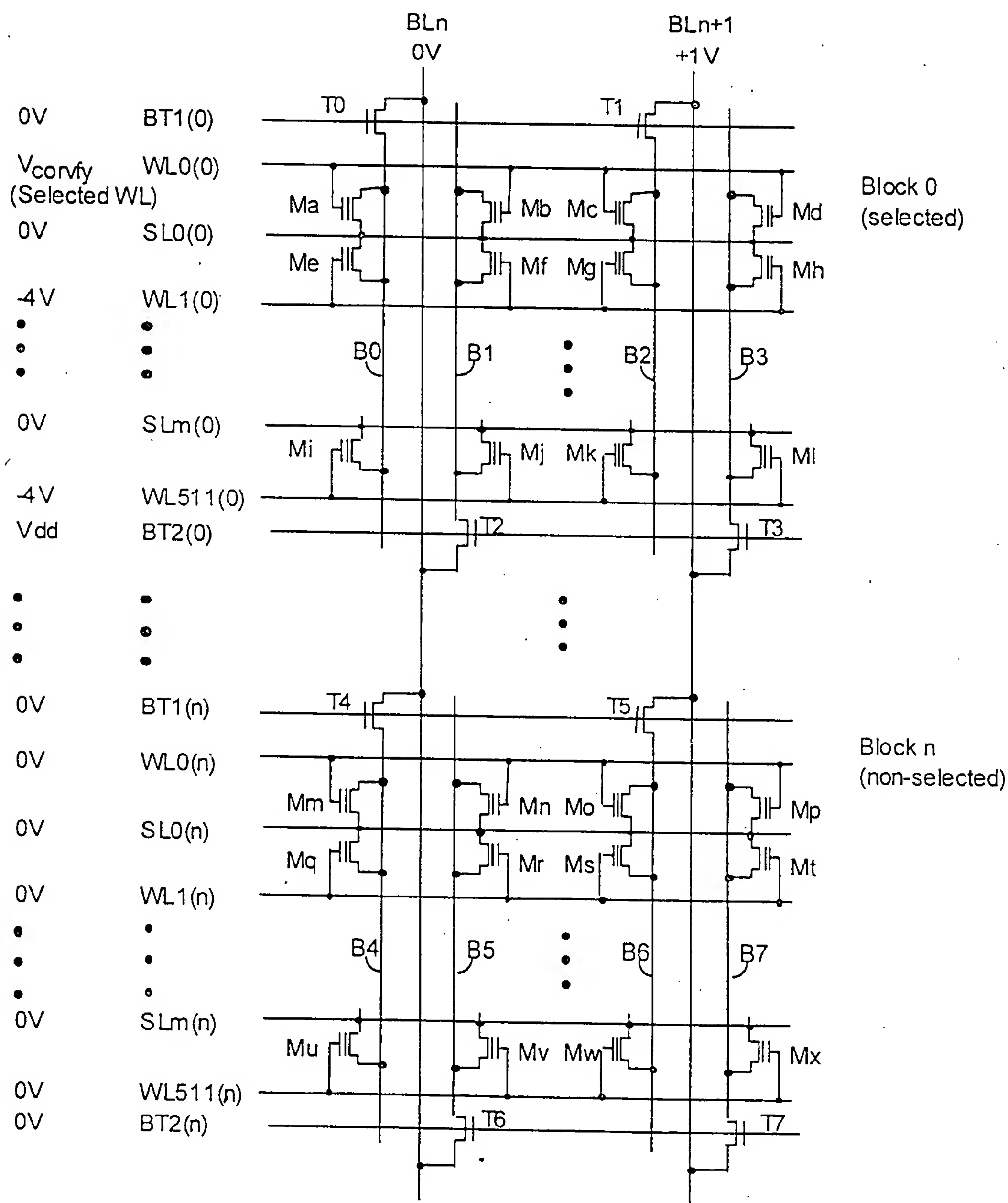


FIG. 13

# Program Operations

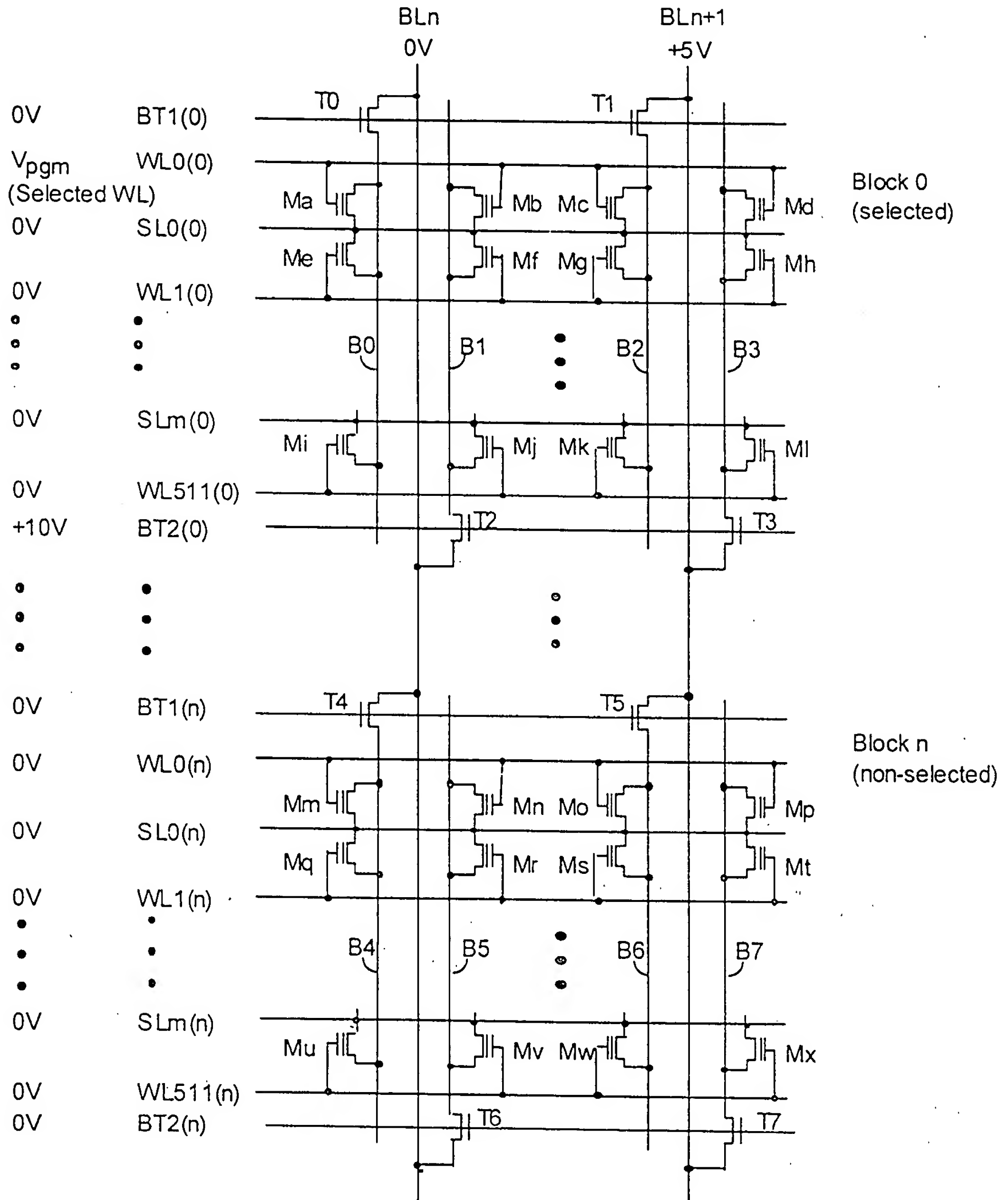


FIG. 14

# Program Verify Operations

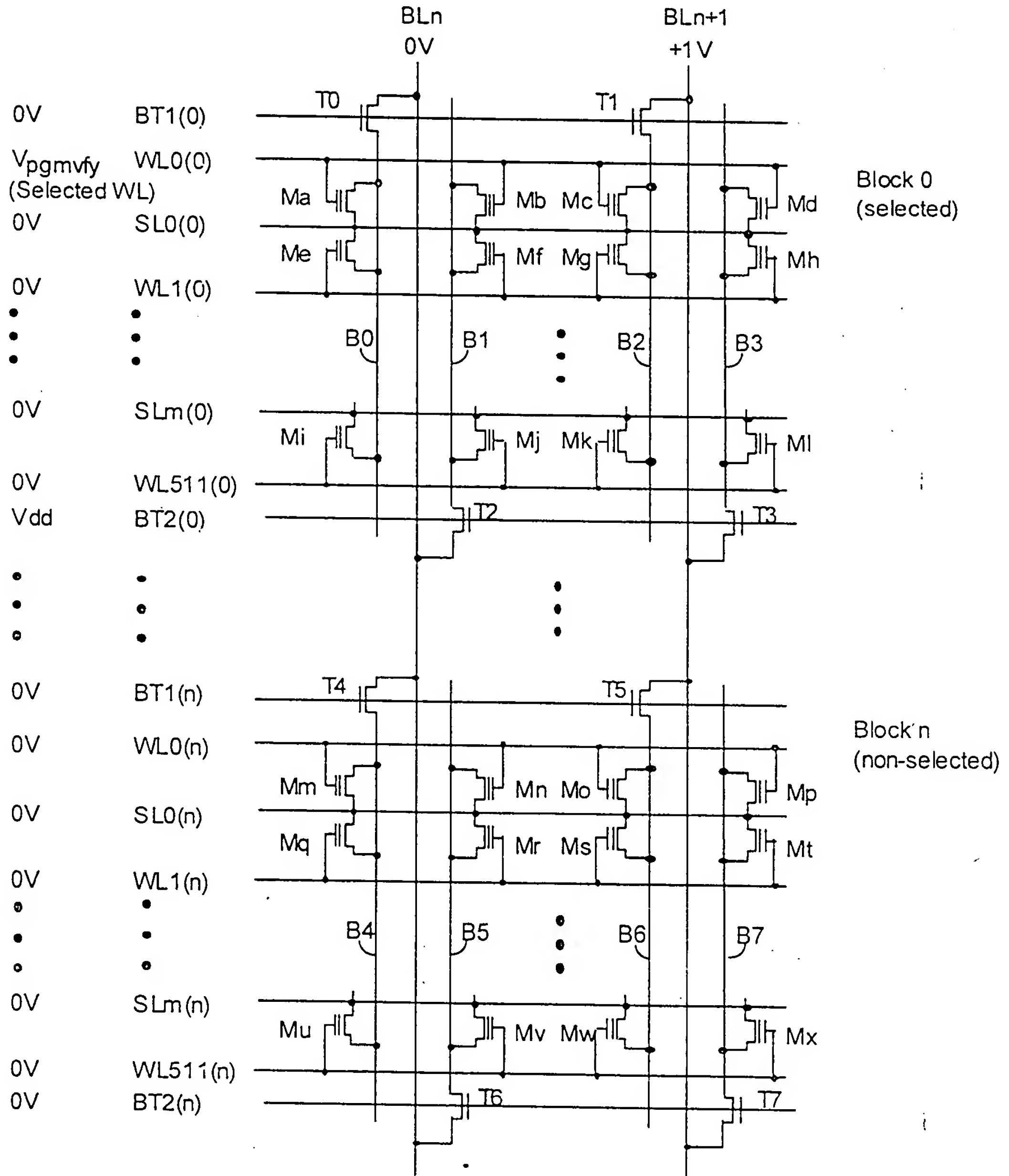


FIG. 15

Cell on a P-substrate for this invention

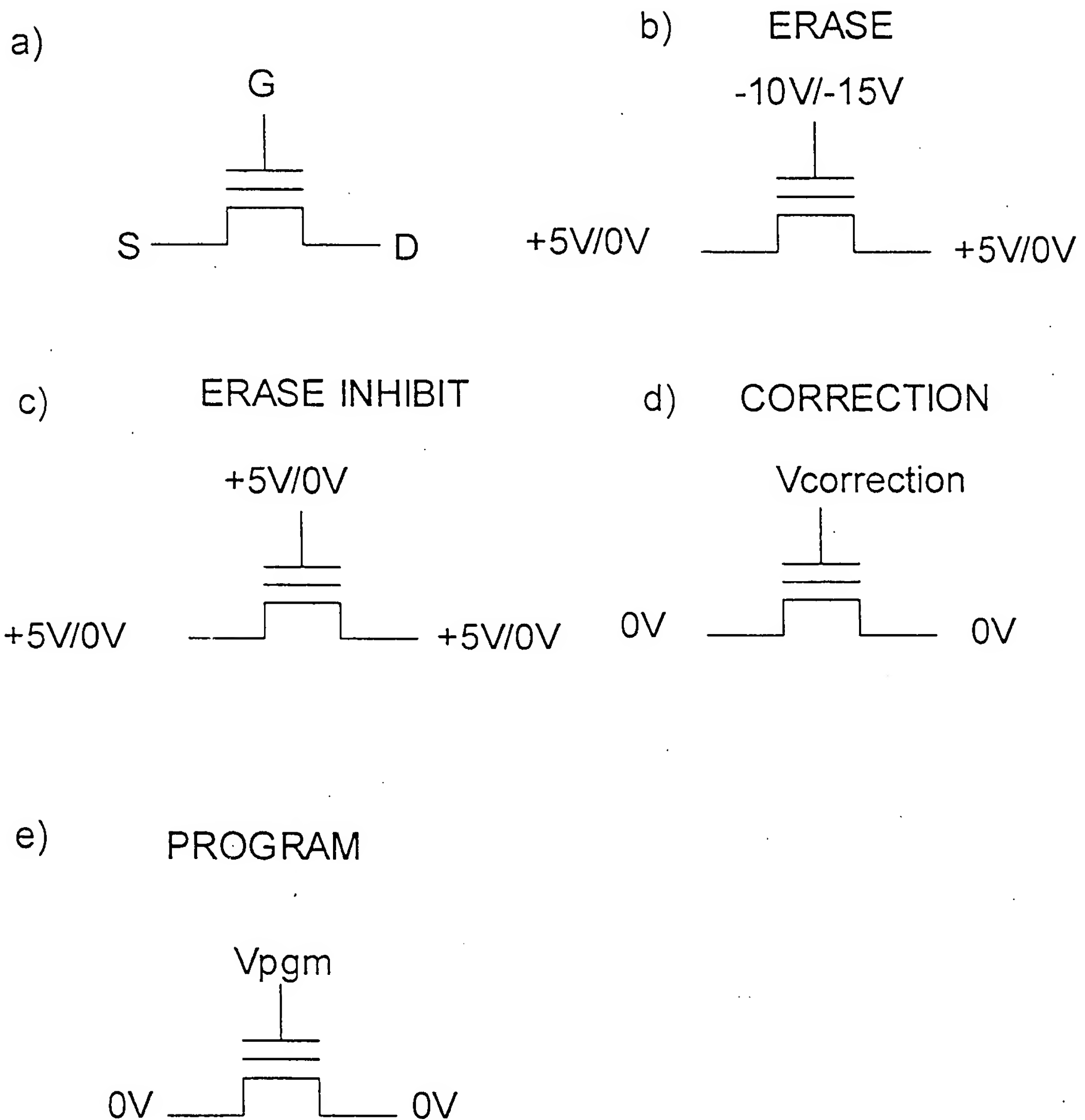


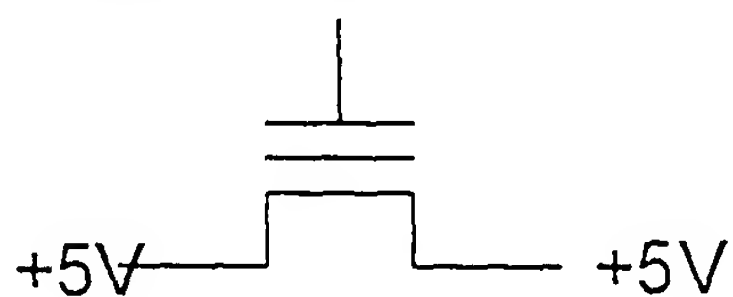
FIG. 16

# Cell on a P-substrate for this invention

a) PROGRAM/CORRECTION  
INHIBIT

(In same WL, in selected Block)

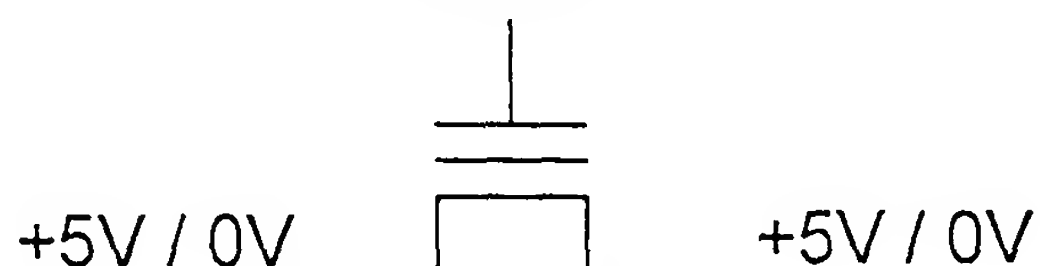
$V_{pgm}/V_{correction}$



b) PROGRAM/CORRECTION  
INHIBIT

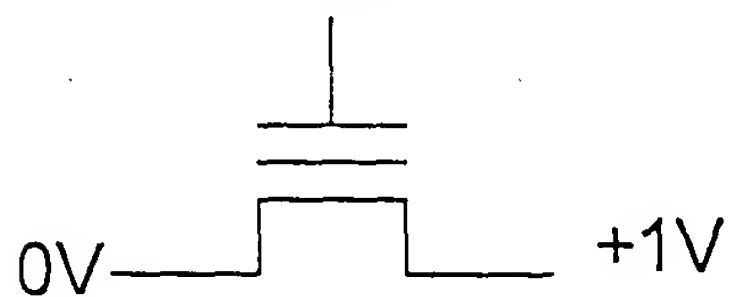
(In different WL,  
in selected Block)

+2.5V



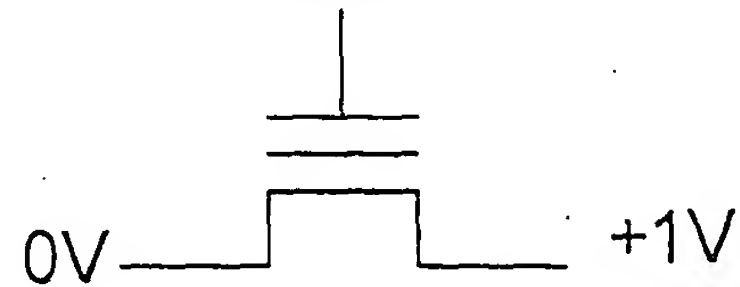
c) PROGRAM VERIFY

$V_{pgmvfy}$



d) CORRECTION VERIFY

$V_{corvfy}$



e) READ

$V_{read}$



f) ERASE VERIFY

$V_{ersvfy}$

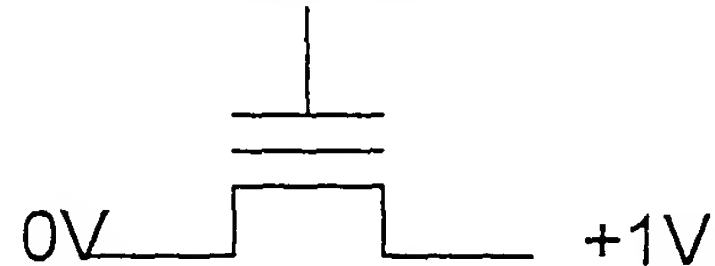


FIG. 17

# AND Array on a P-substrate

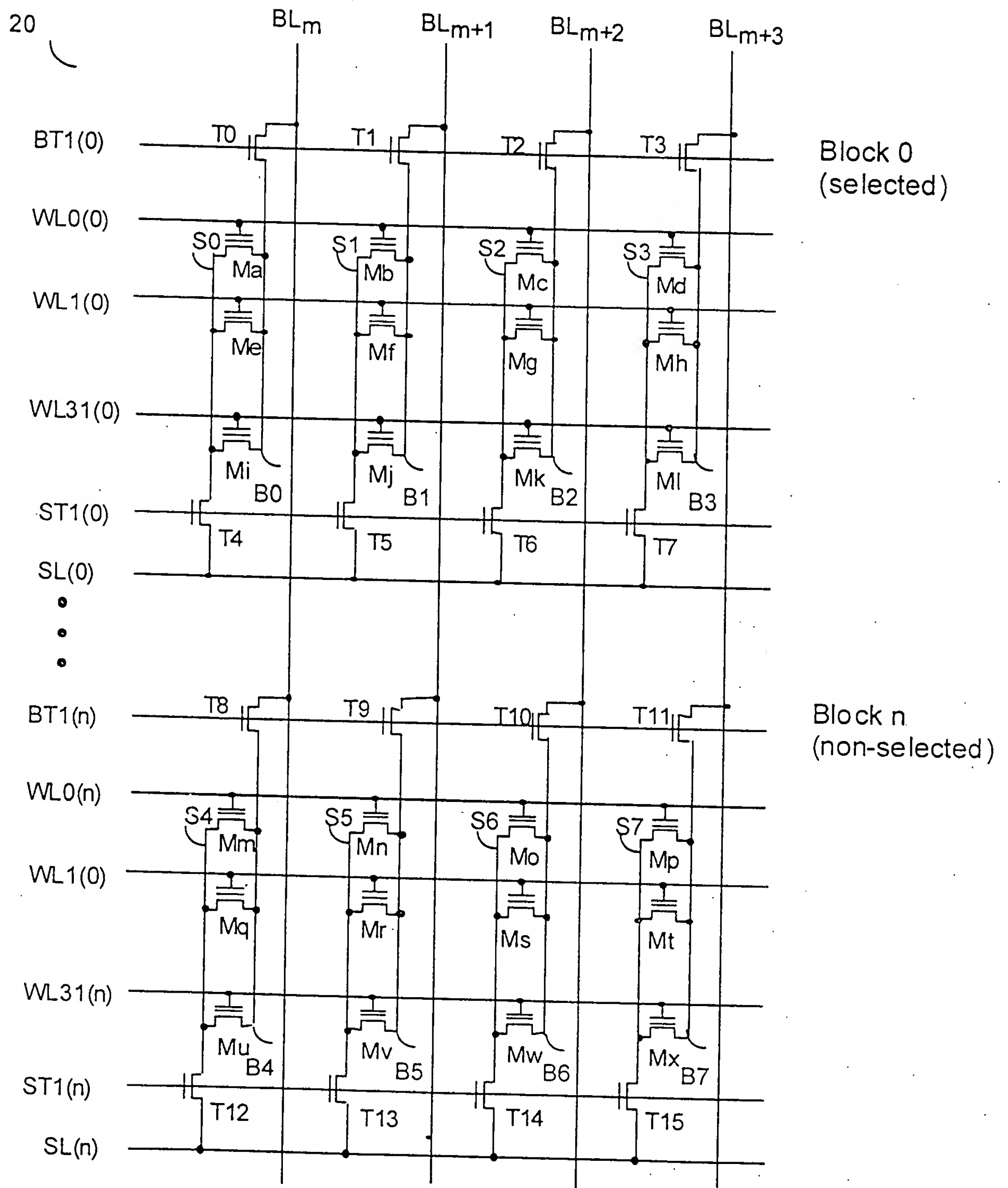


FIG. 18



# Random Page Erase Operation

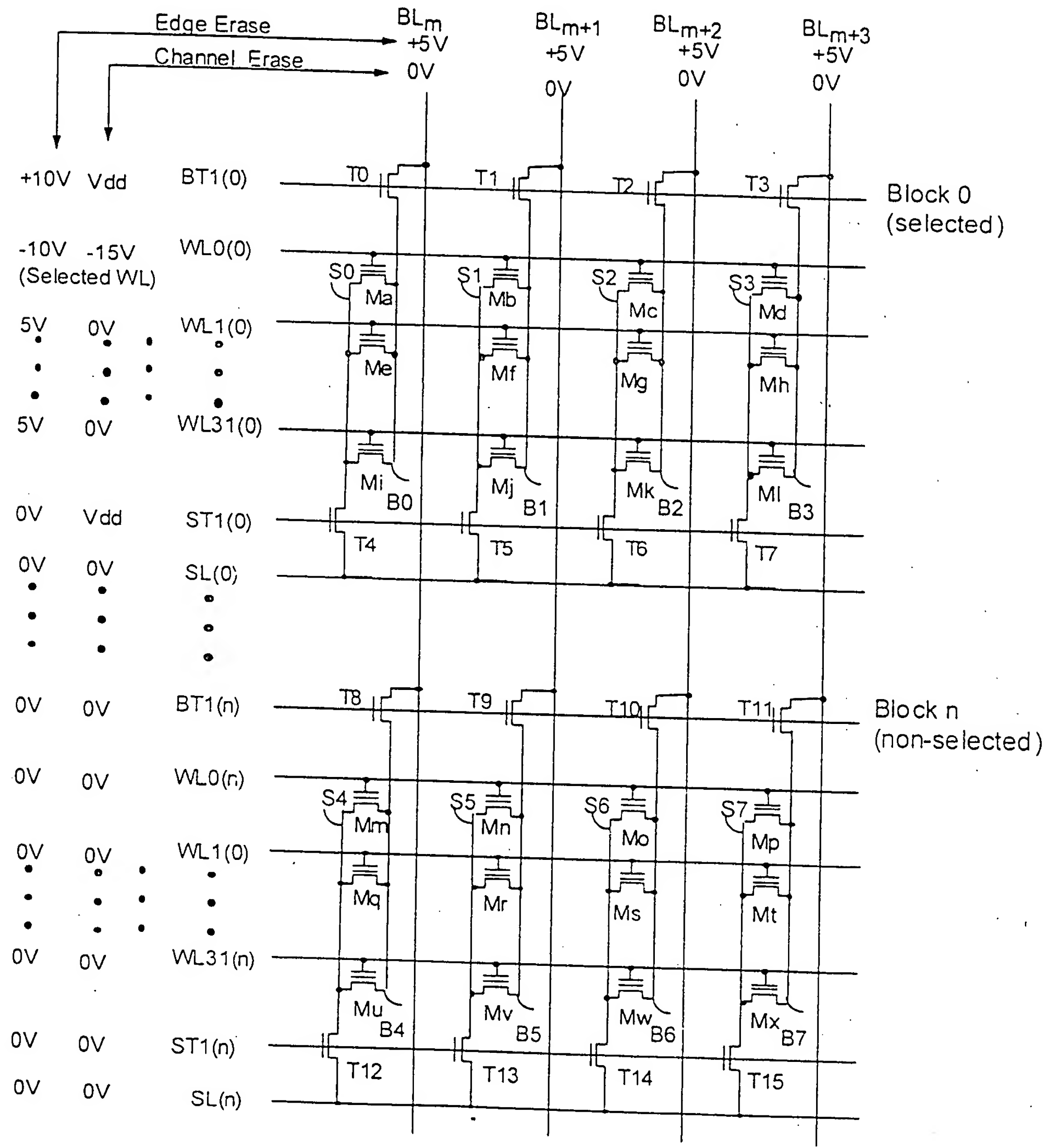


FIG.19

# Random Page Erase Verify Operation

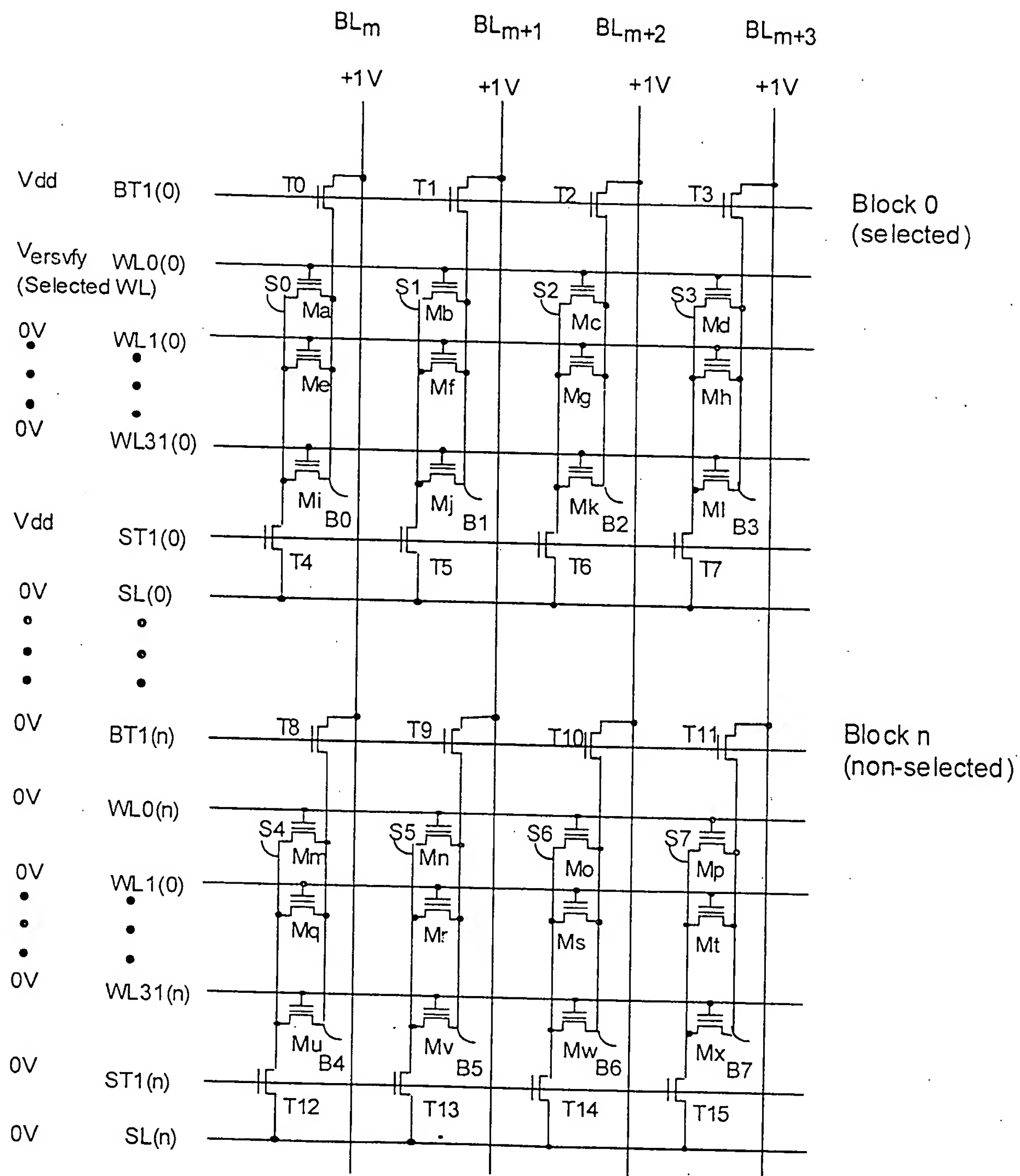


FIG. 20

## Block Erase Operations

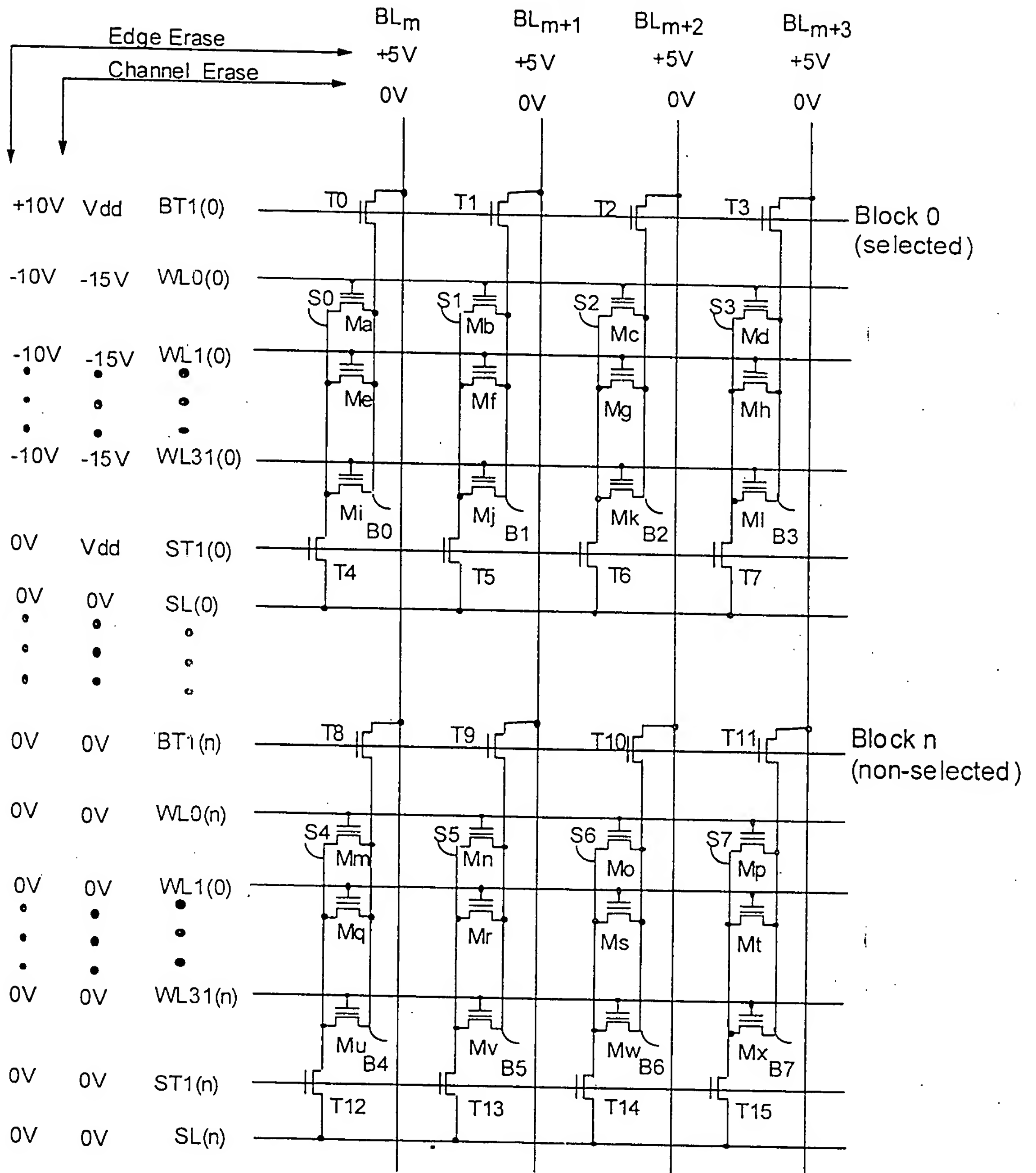


FIG.21

# Block Erase Verify

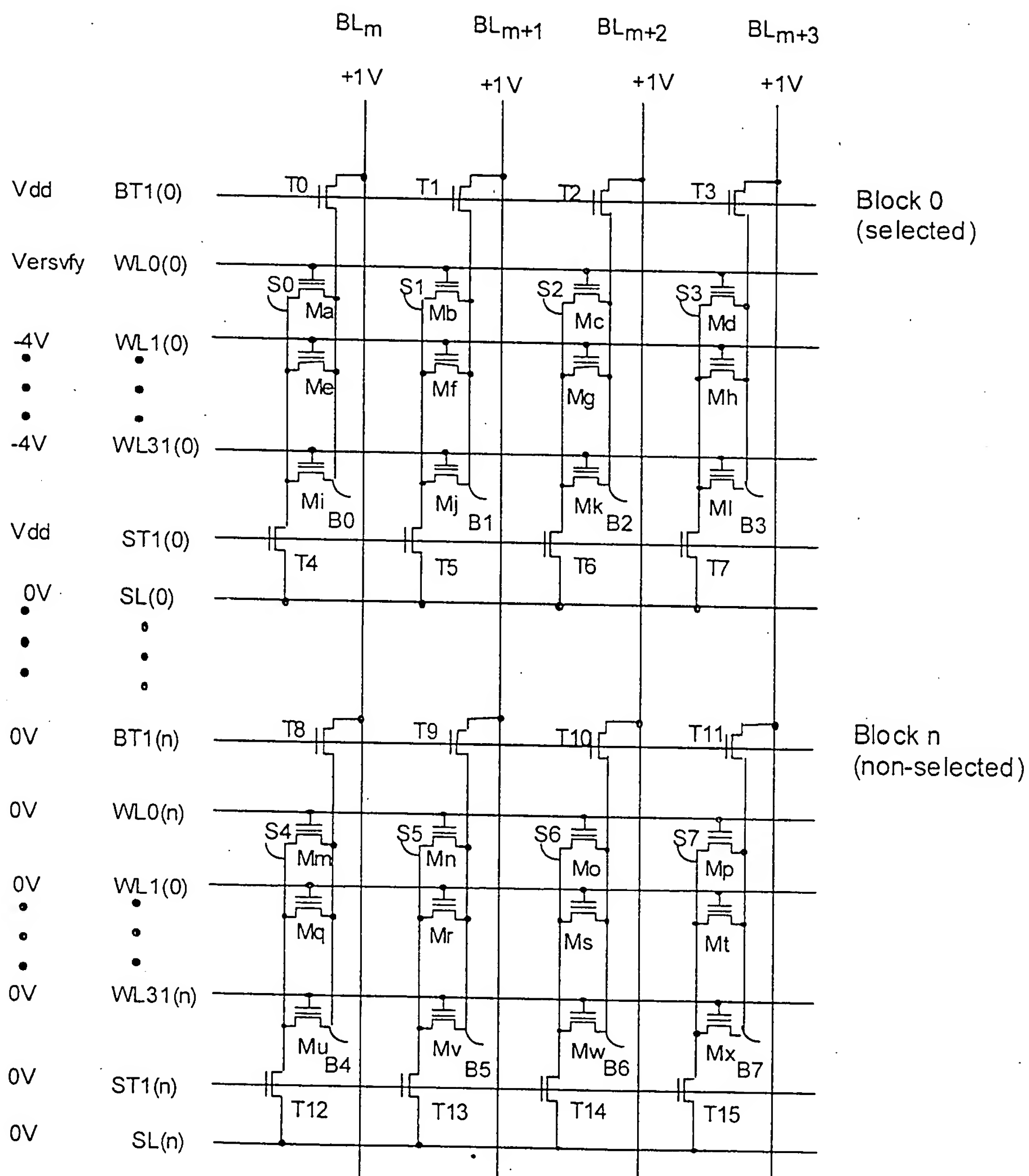


FIG. 22

# Block Erase Inhibit

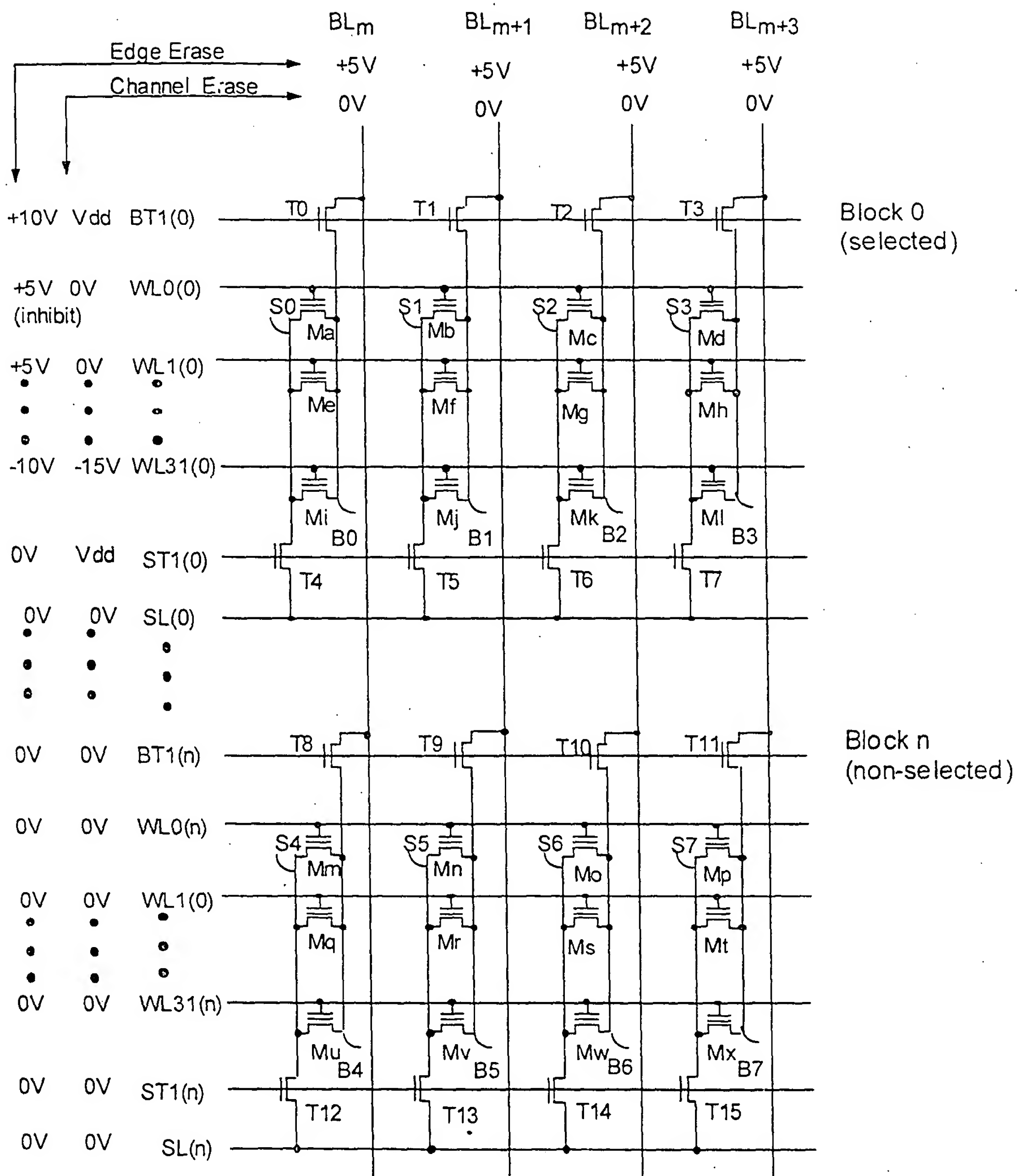


FIG. 23

# Correction Operation

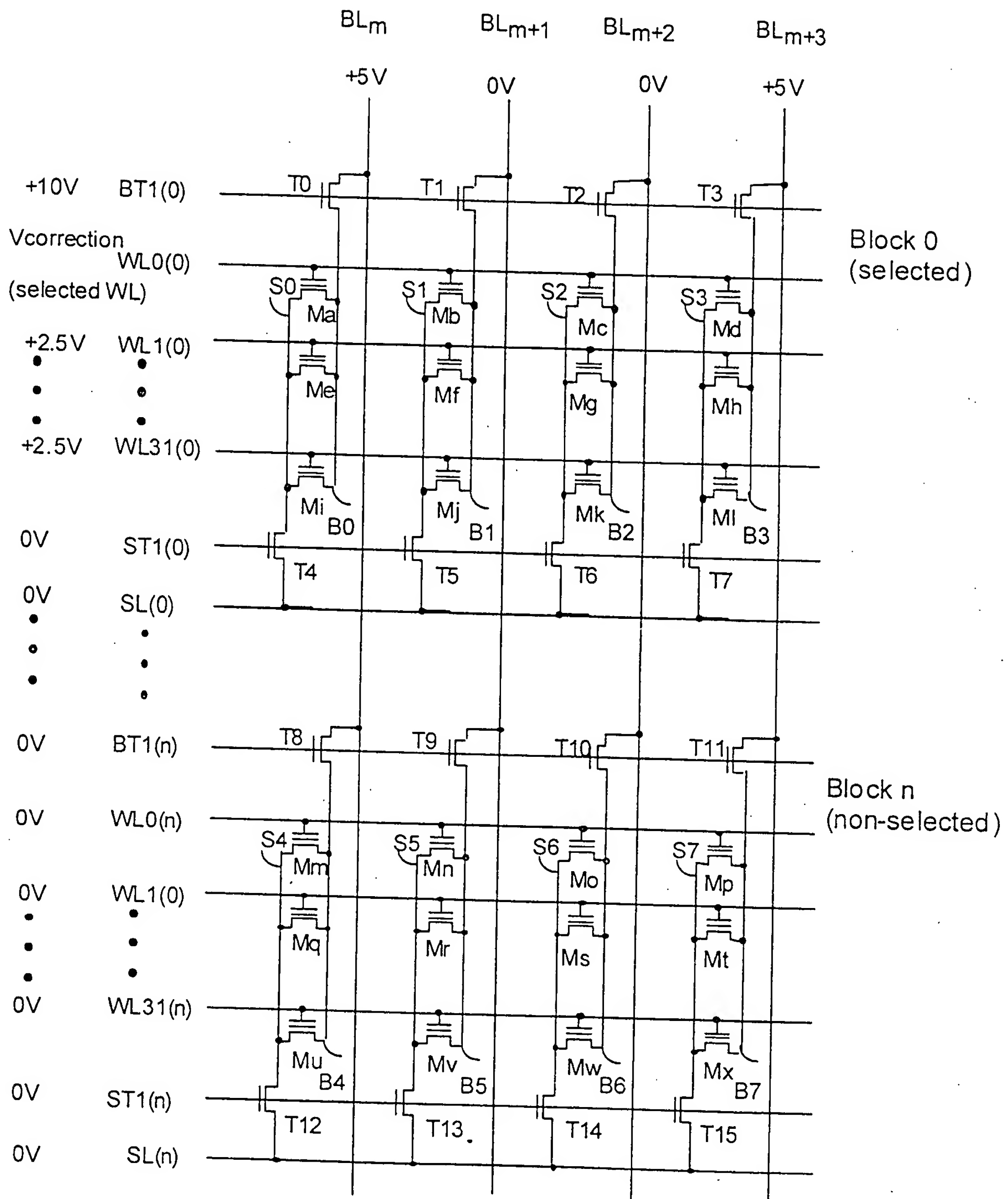


FIG. 24

# Correction Verify

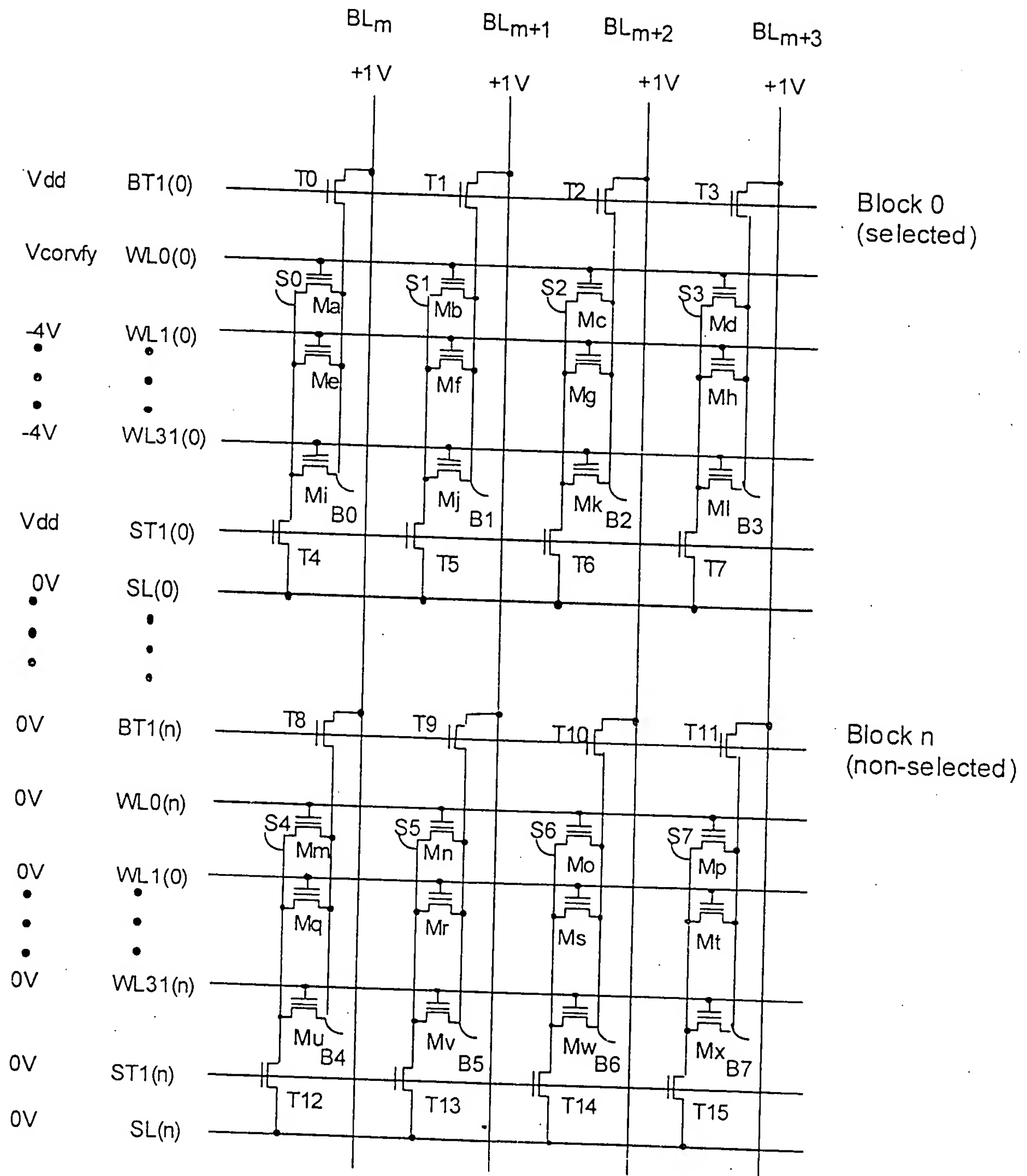


FIG. 25

# Random Page Program Operation

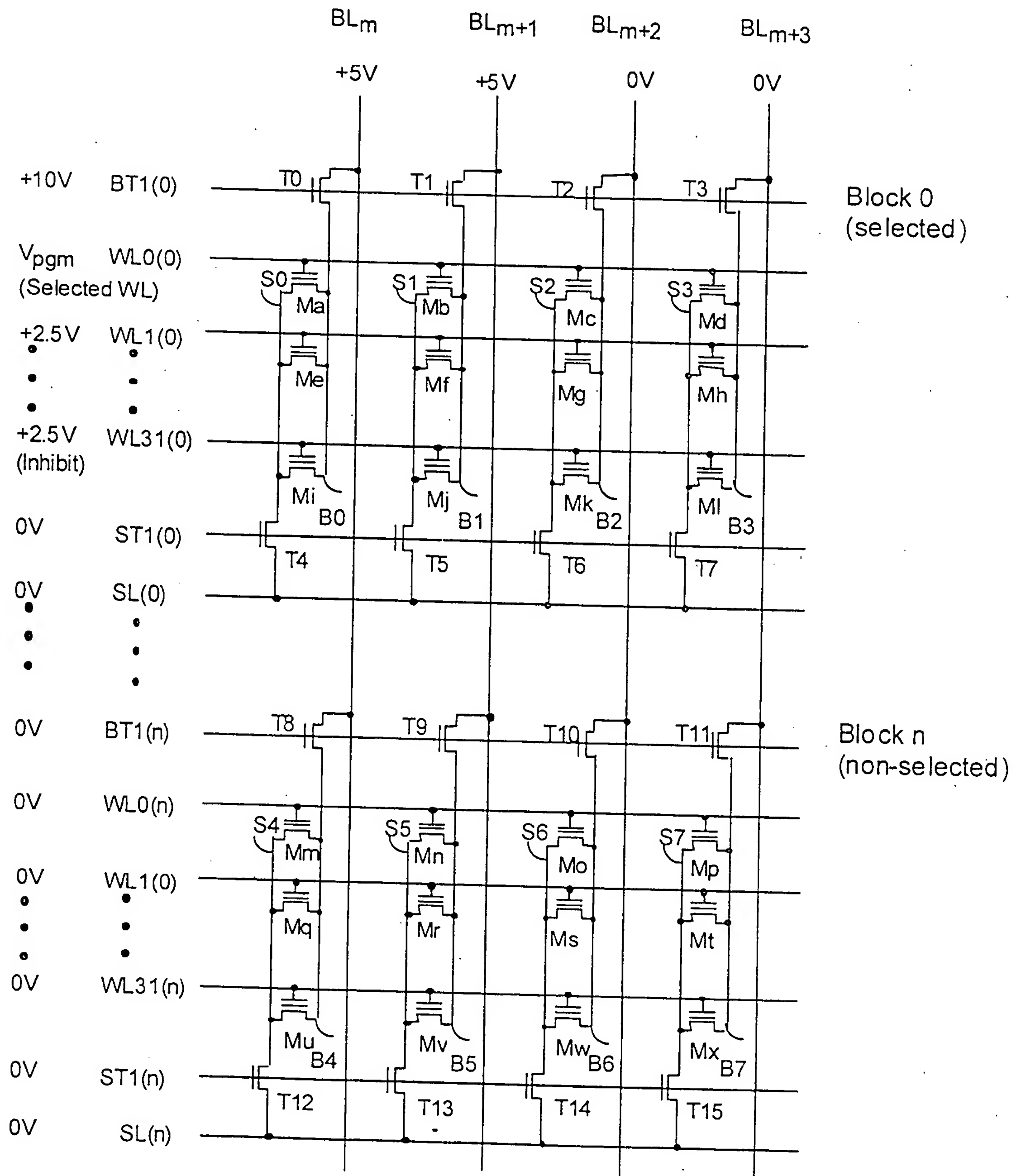


FIG. 26



# Random Page Program Verify Operation

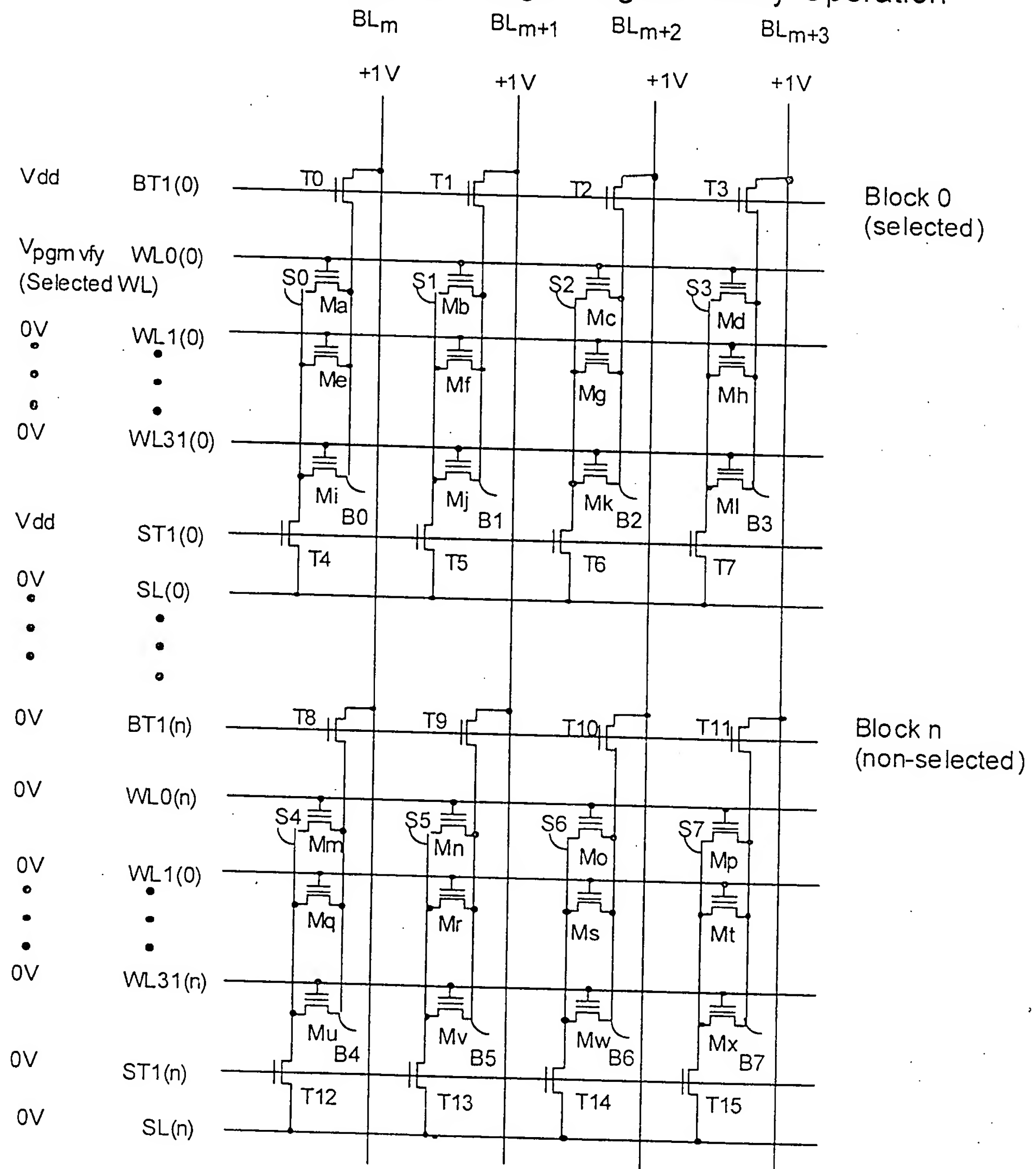


FIG. 27

## ETOX NOR cell on a P-well

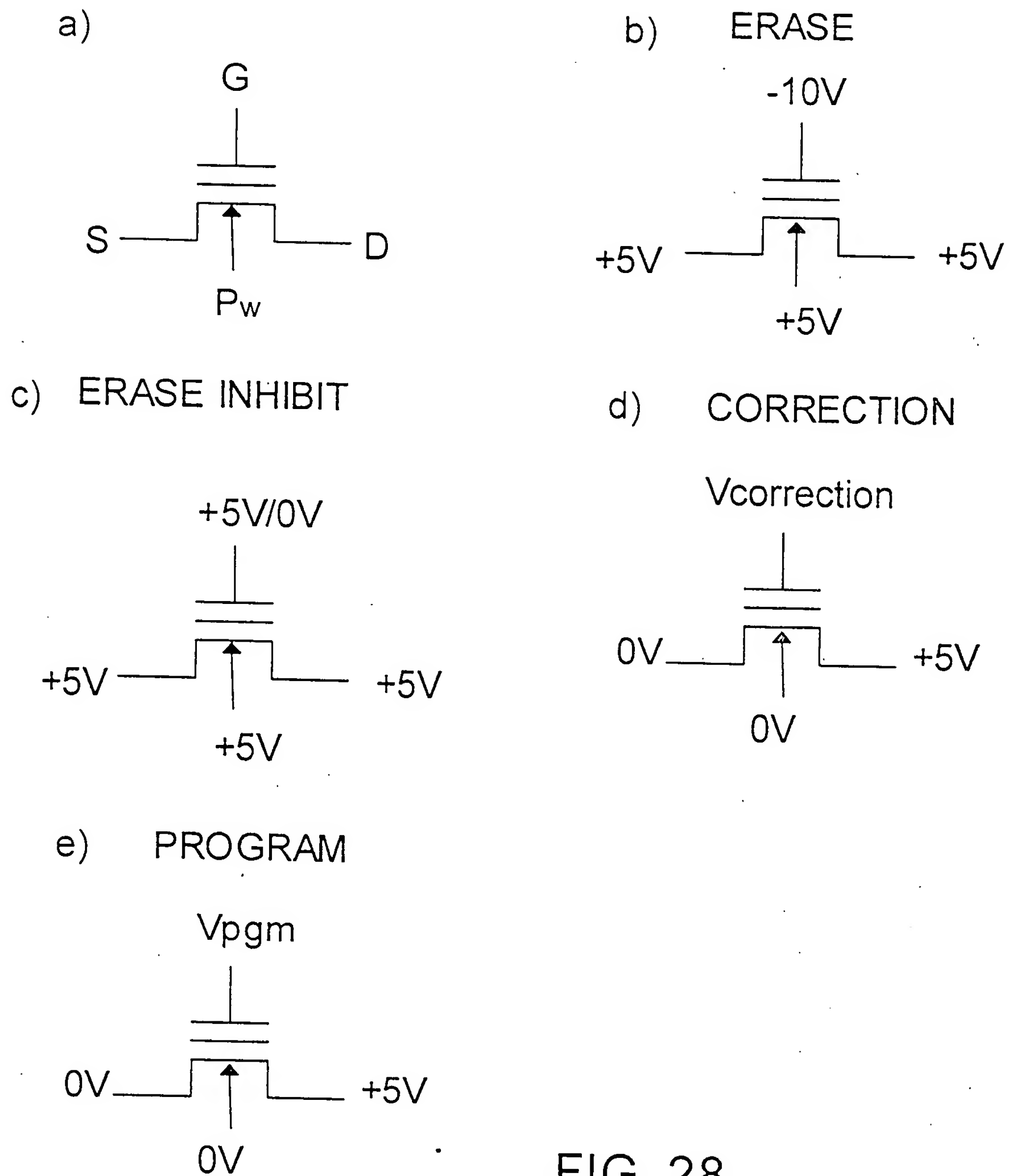
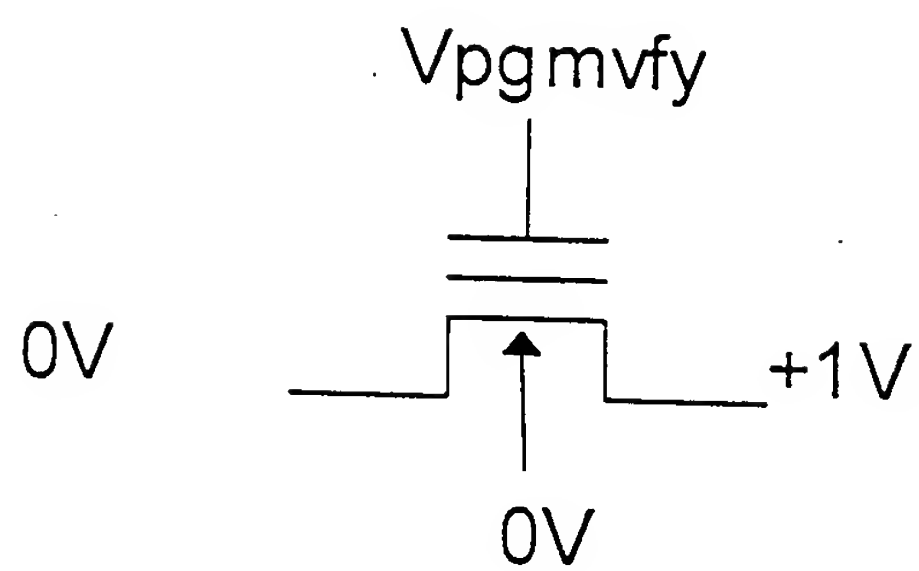


FIG. 28

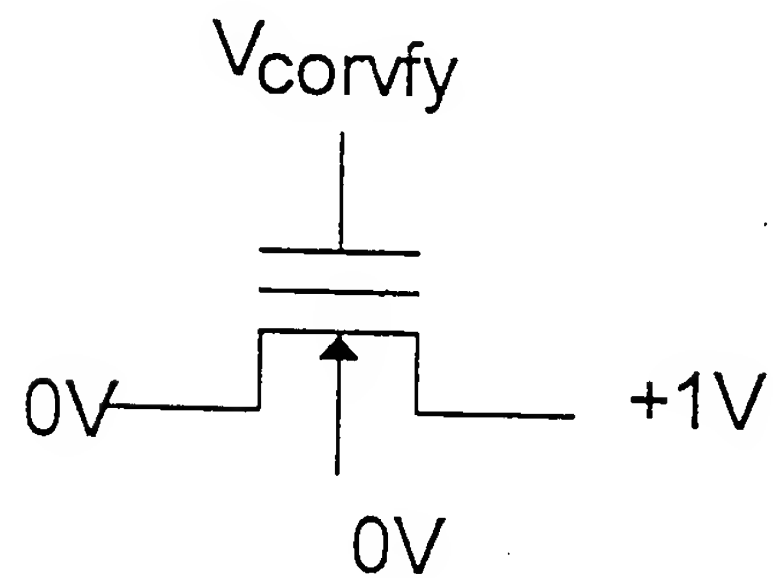
# ETOX NOR cell on a P-well

a)



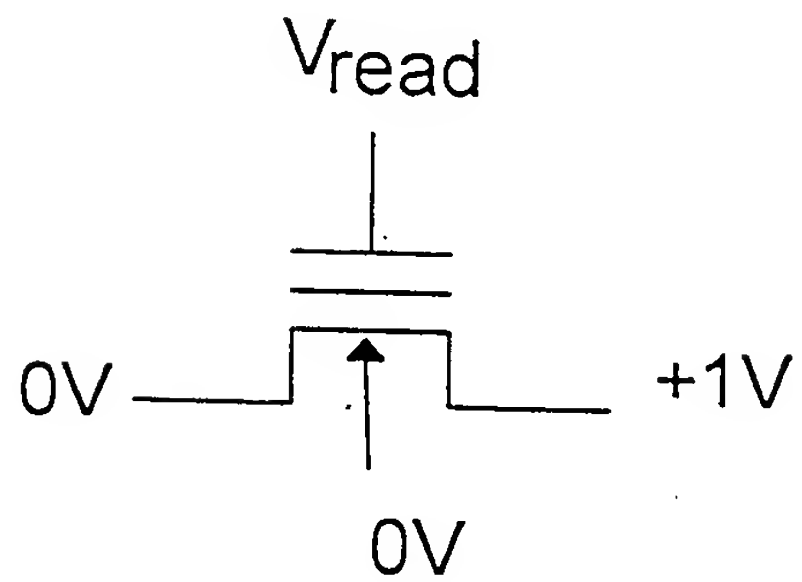
b)

CORRECTION VERIFY



c)

READ



d)

ERASE VERIFY

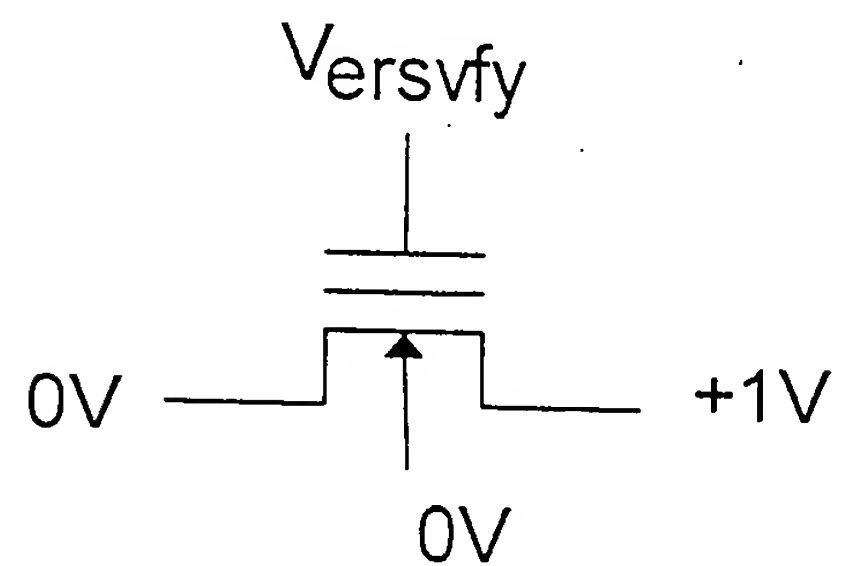


FIG. 29

# ETOX NOR Array on a Pwell

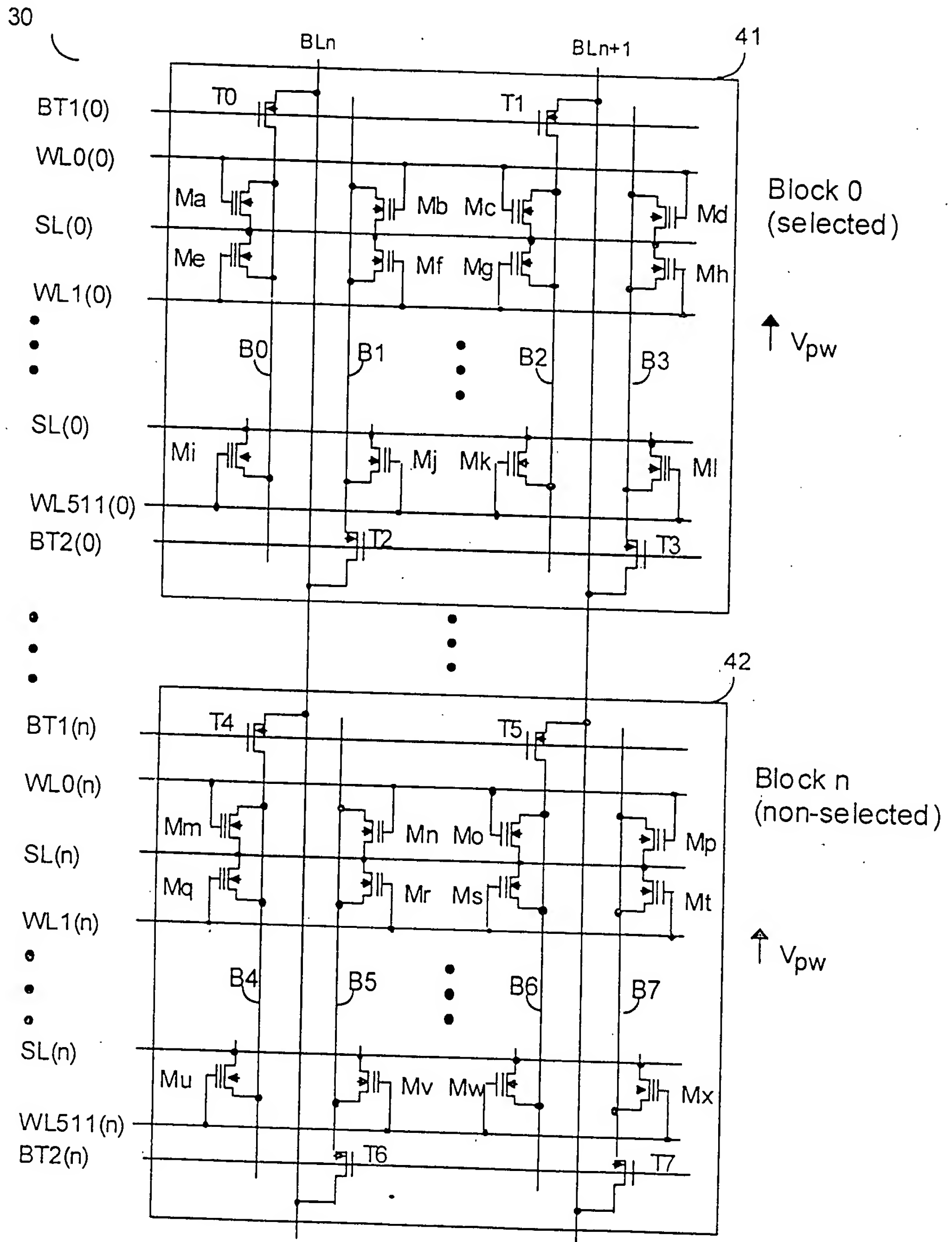


FIG. 30

# Block Erase Operations

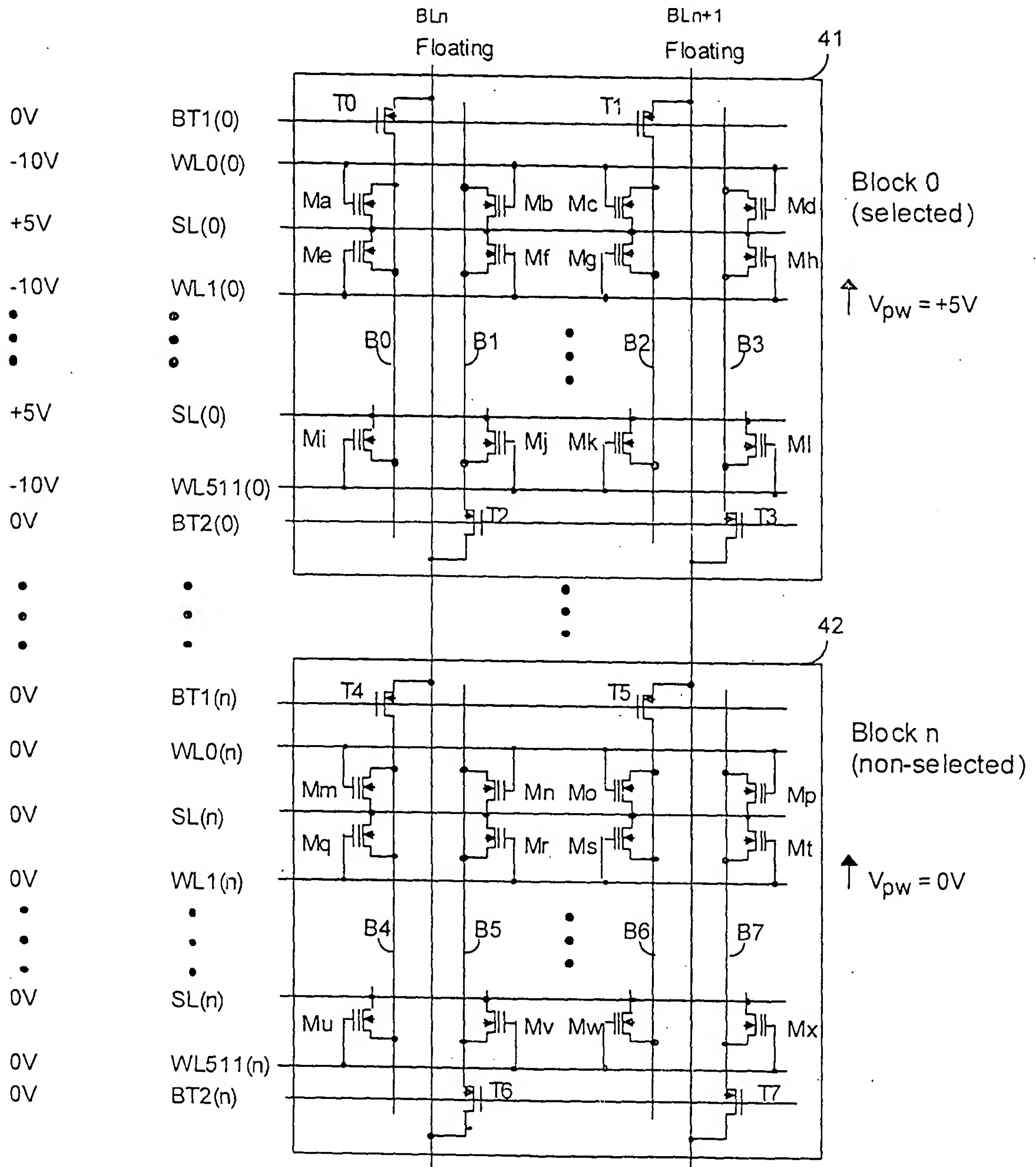
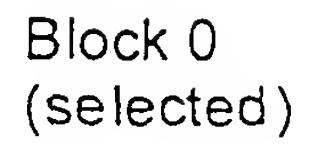


FIG. 31

BLn	BLn+1
0V	+1V



$\uparrow V_{pw} = 0V$

Block n  
(non-selected)

$\uparrow V_{pw} = 0V$

FIG. 32

## Erase Inhibit

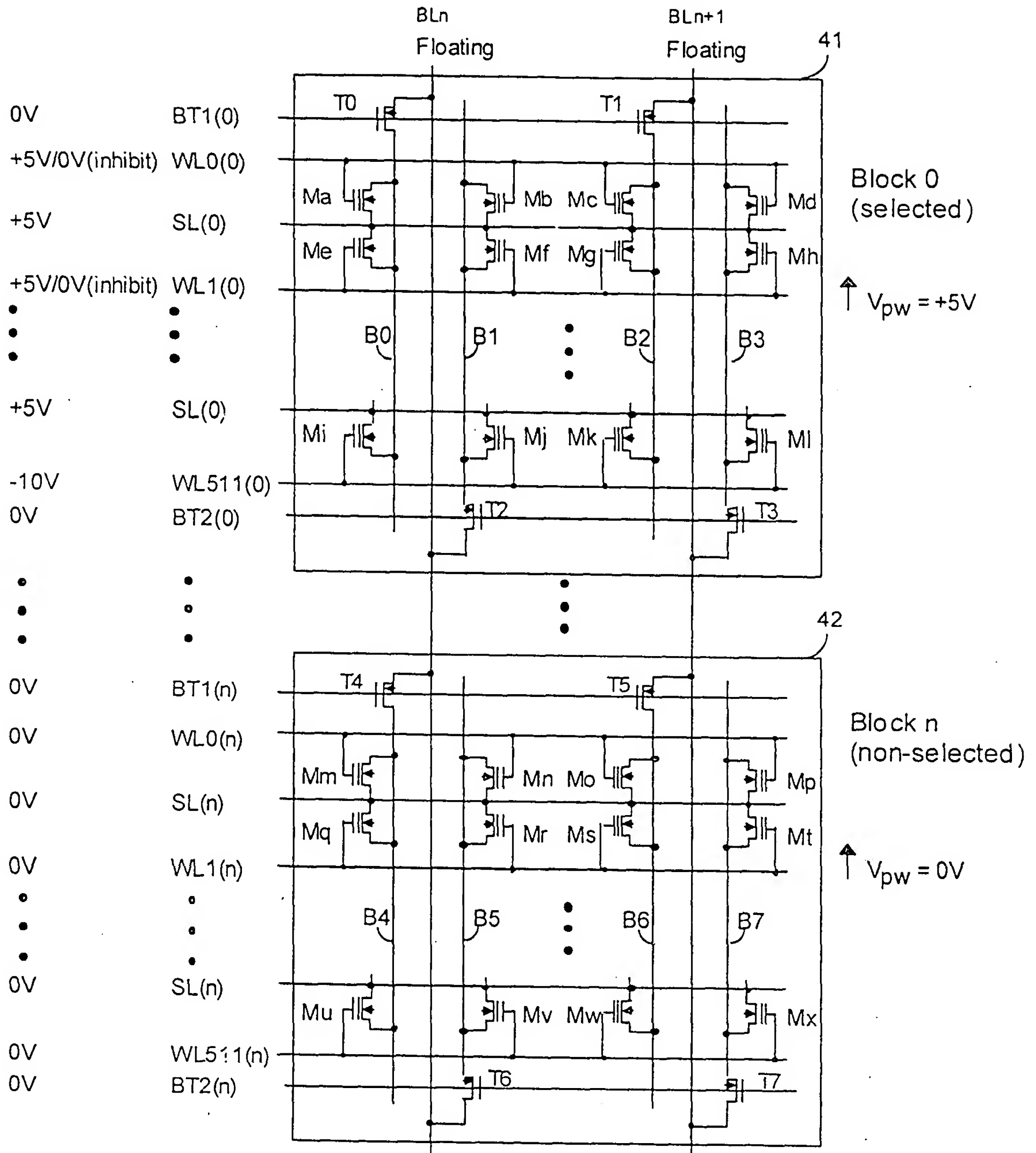


FIG. 33

# Correction Operations

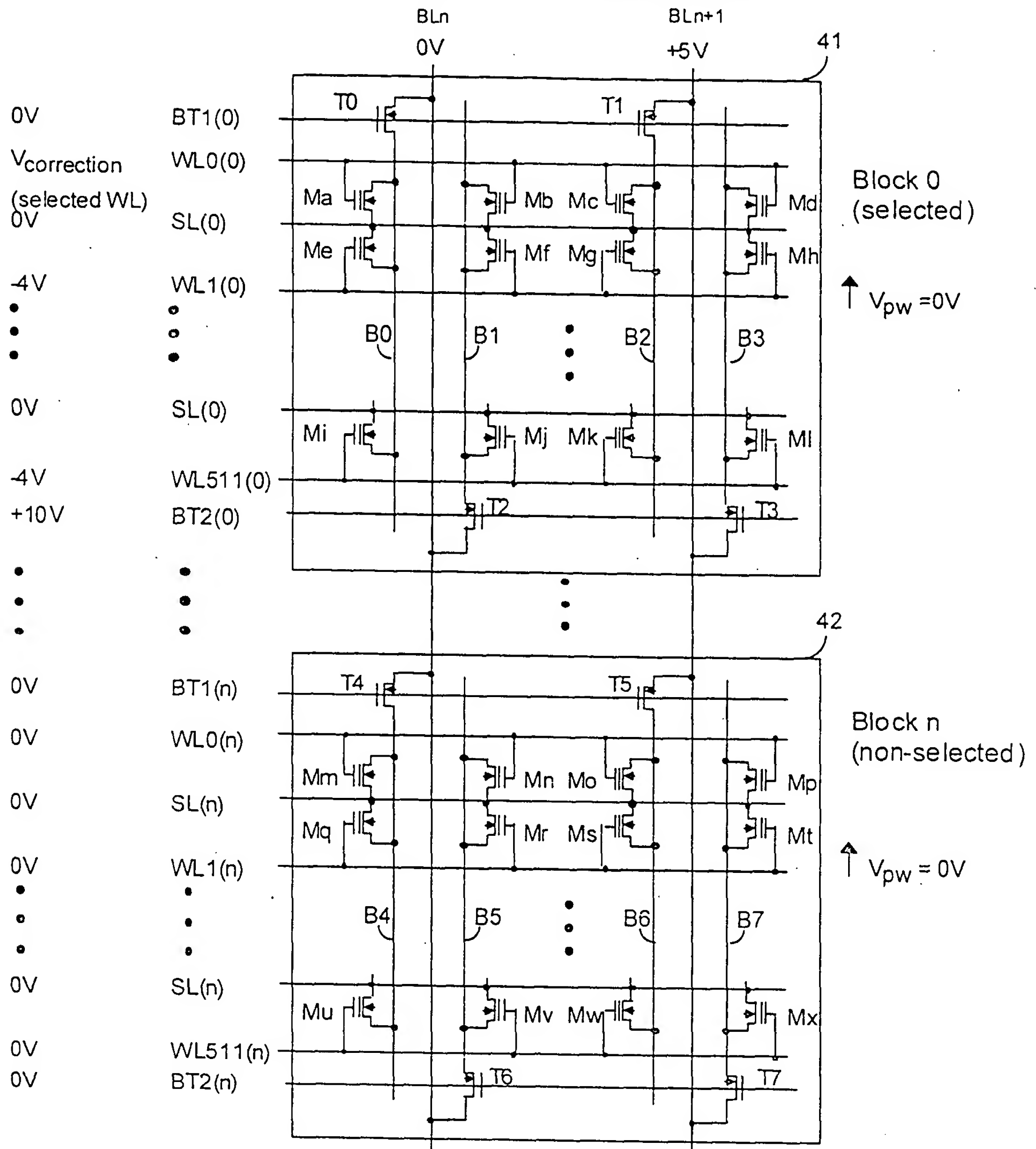


FIG. 34



# Correction Verify Operations

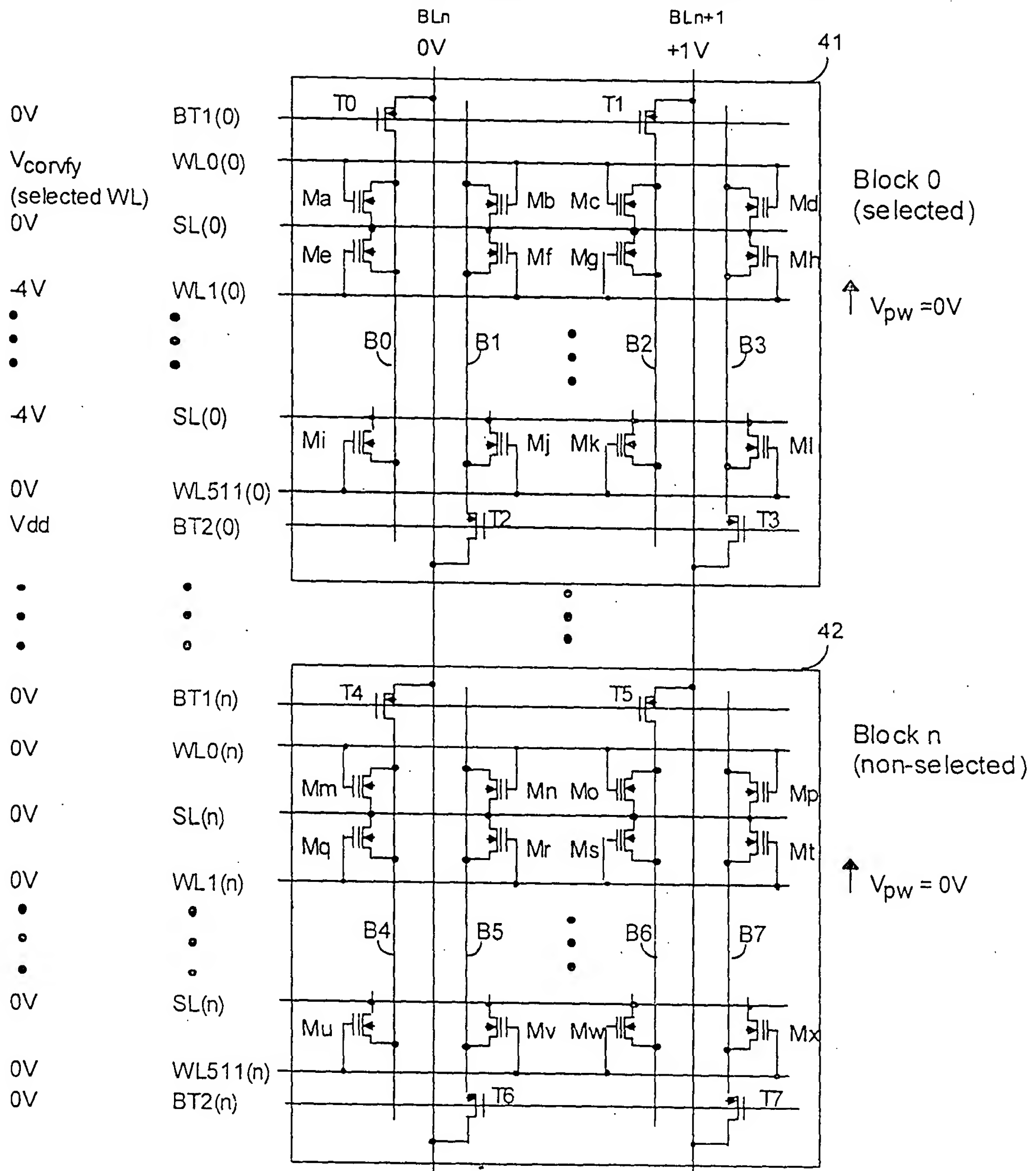


FIG.35

## Program Operations

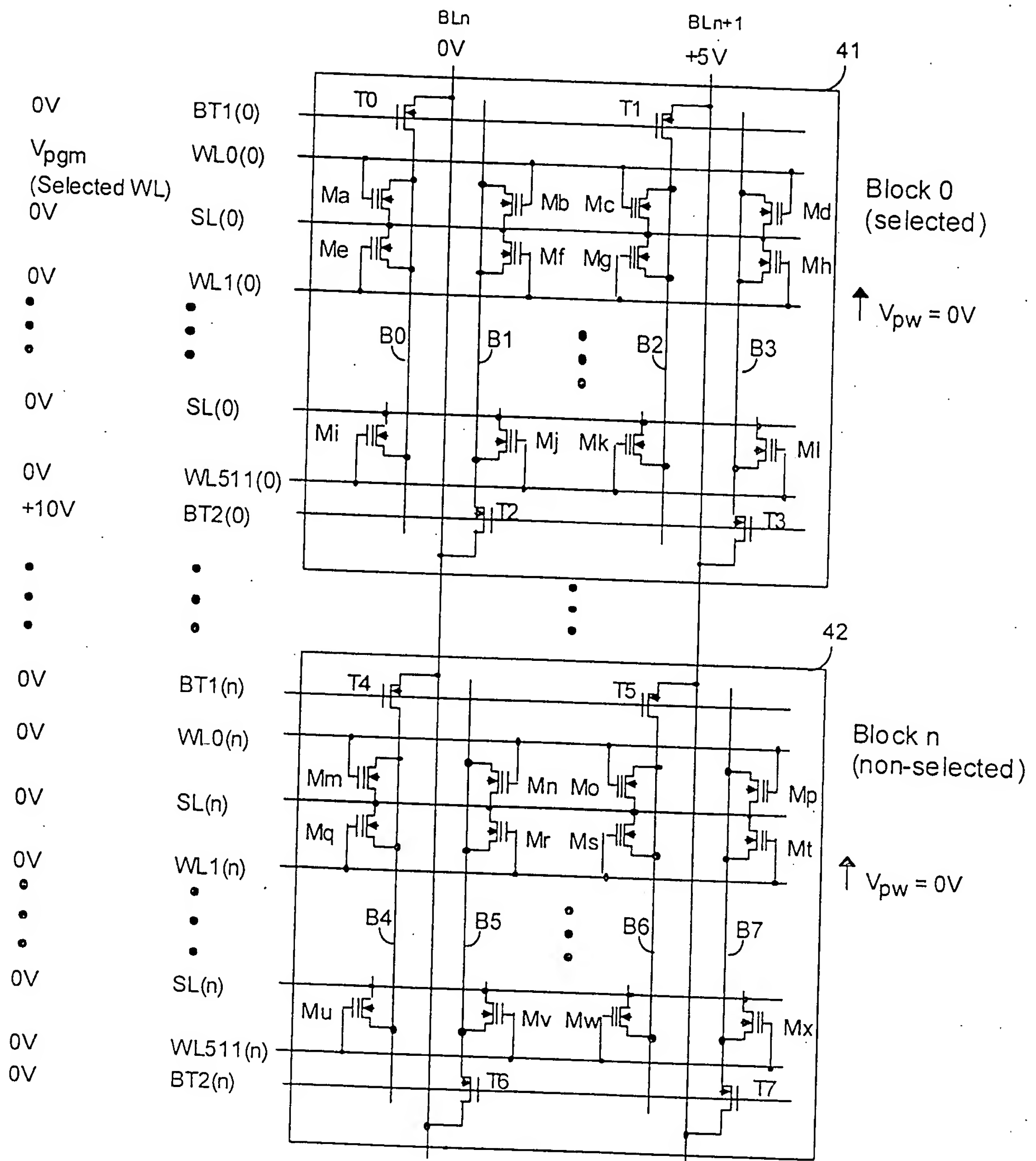
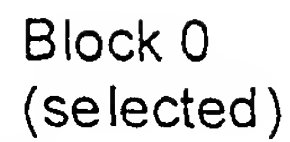


FIG. 36

BLn	BLn+1	
0V	+1V	41



$\uparrow V_{pw} = 0V$

Block n  
(non-selected)

$\uparrow V_{pw} = 0V$

FIG. 37

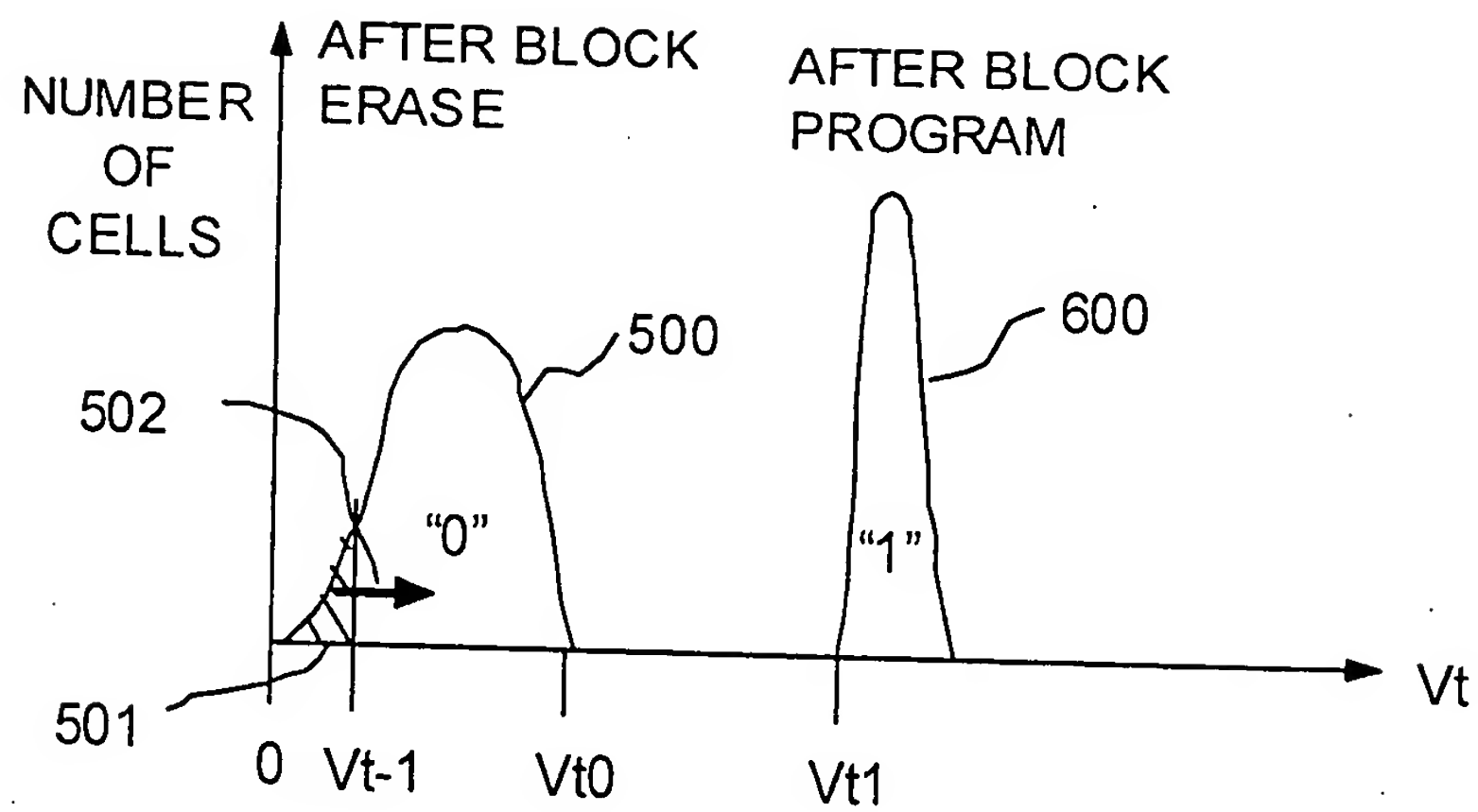


FIG. 38a (Prior Art)

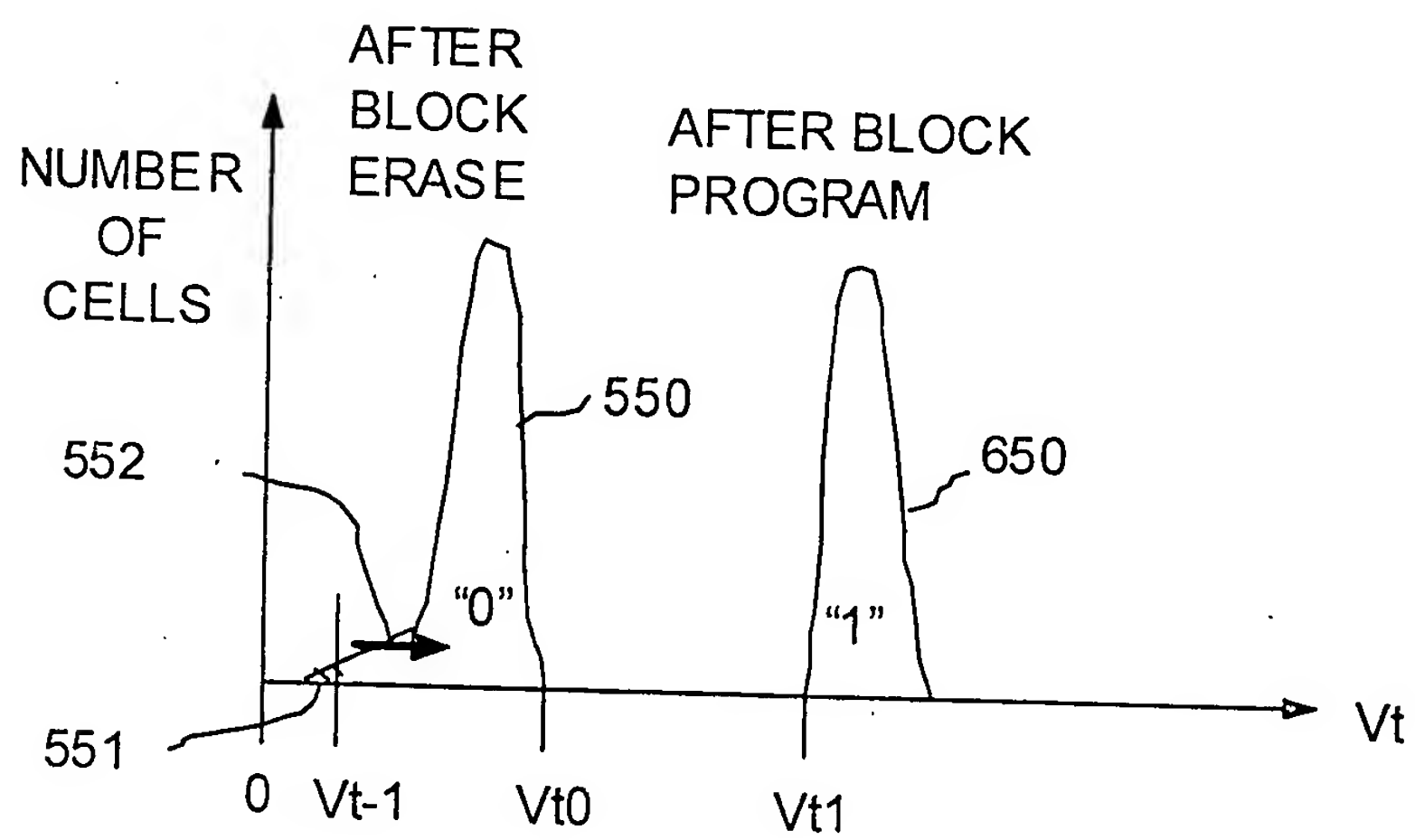


FIG. 38b

# BLOCK ERASE OPERATION

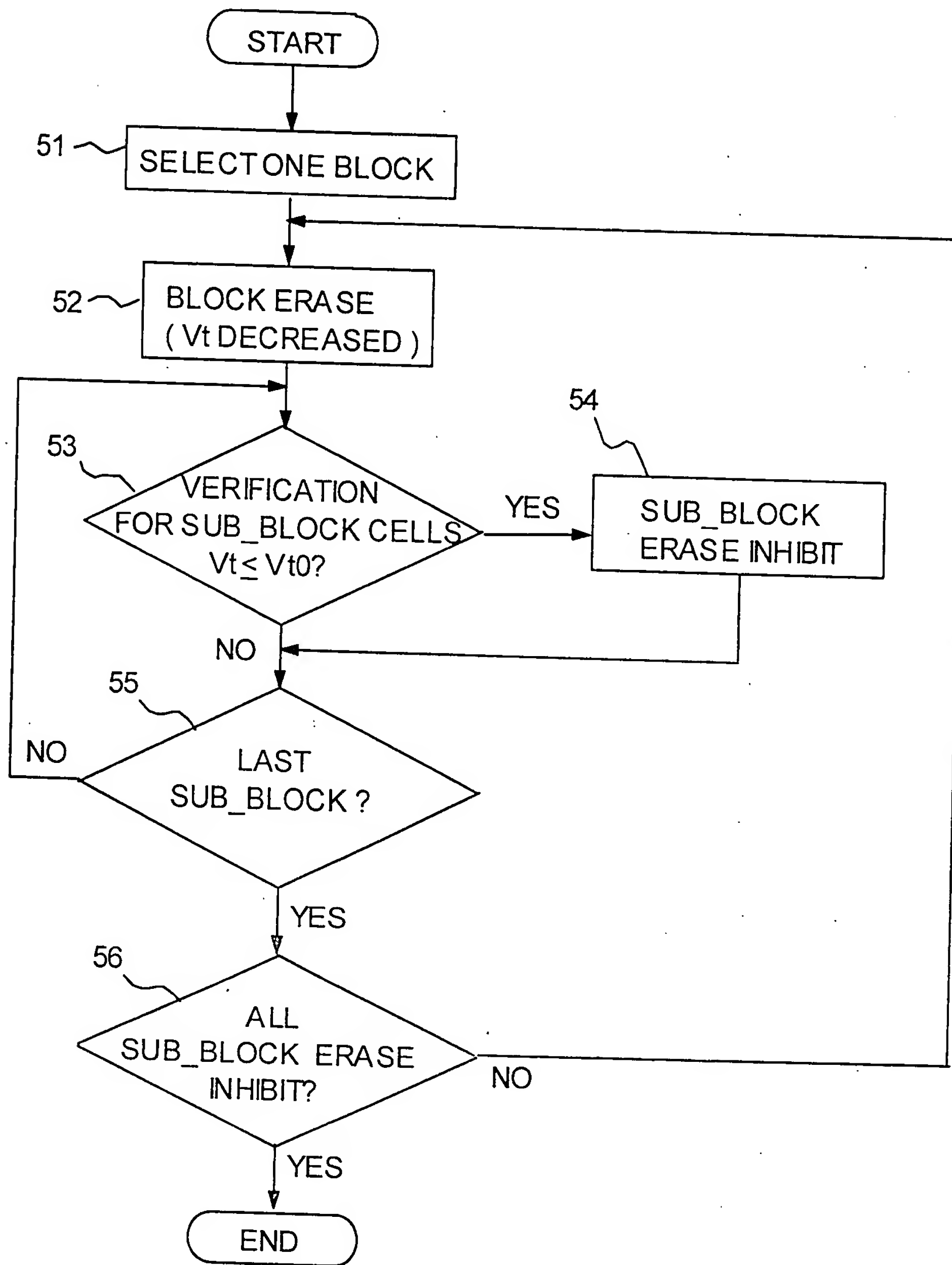


FIG. 39

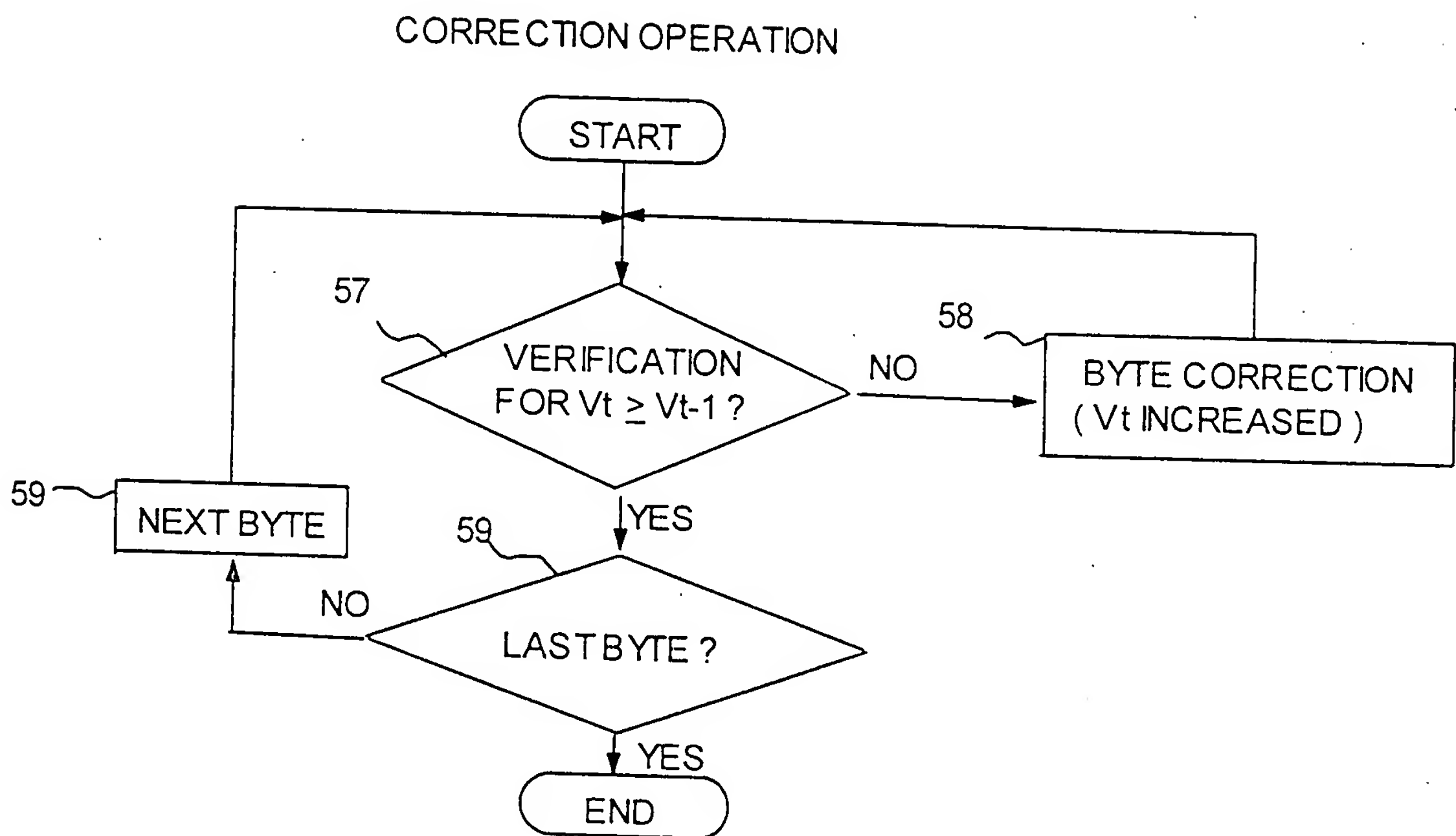


FIG. 40

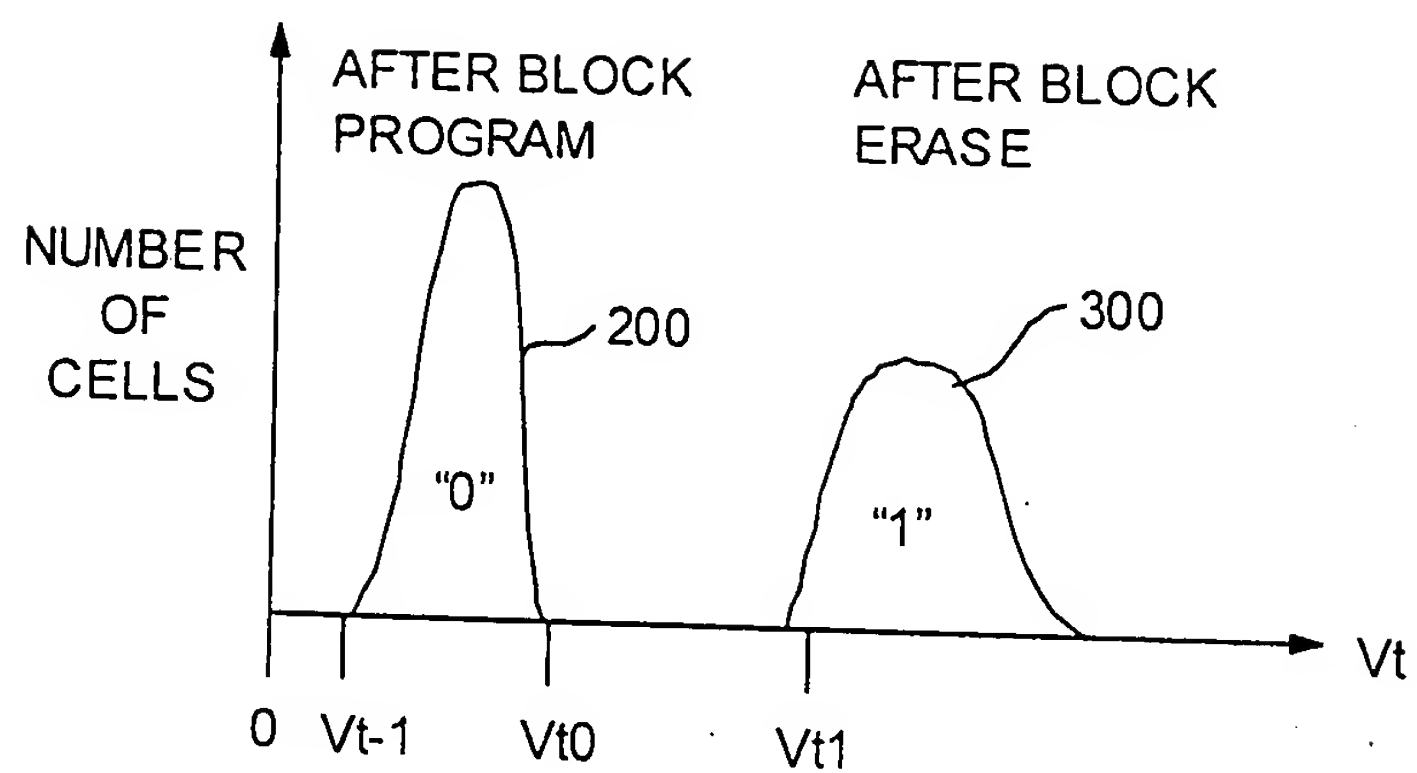


FIG. 41a (Prior Art)

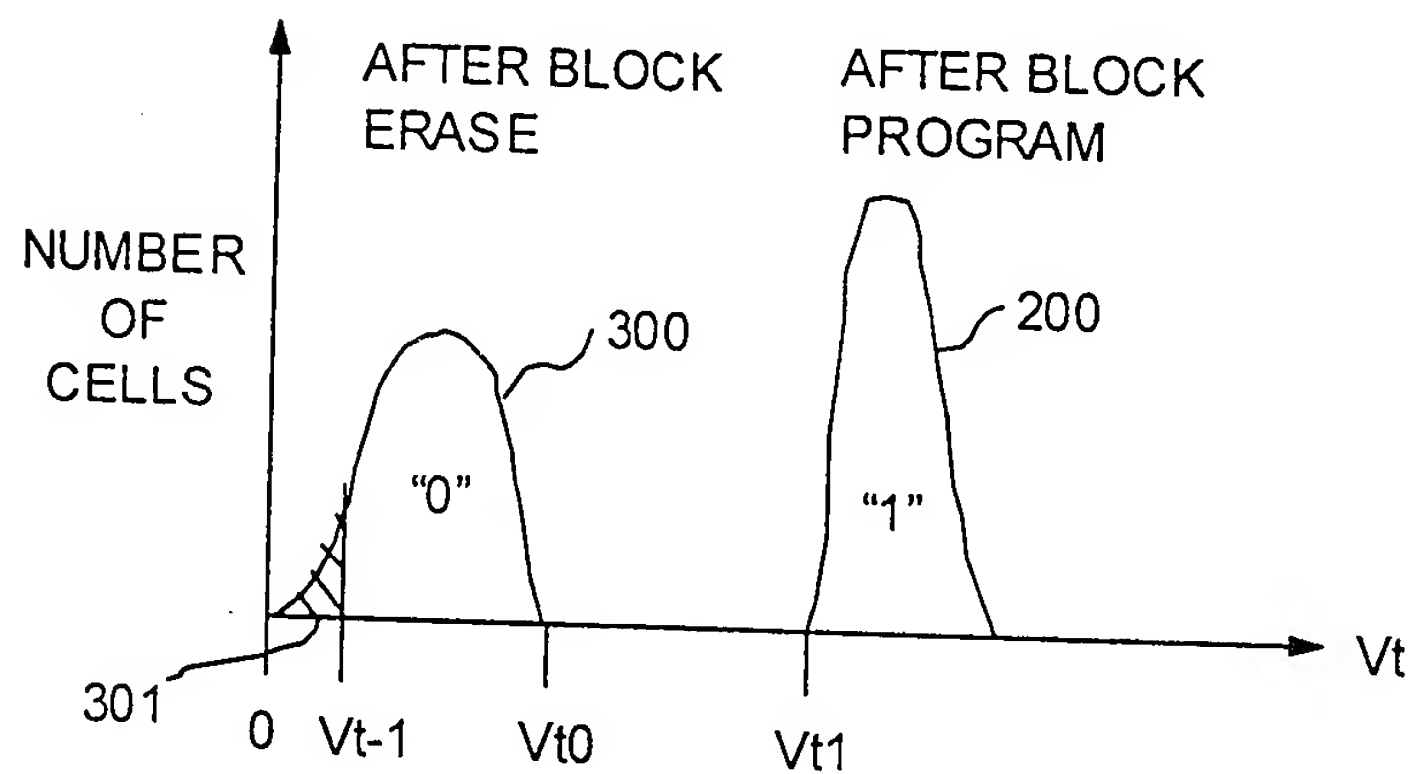


FIG. 41b (Prior Art)

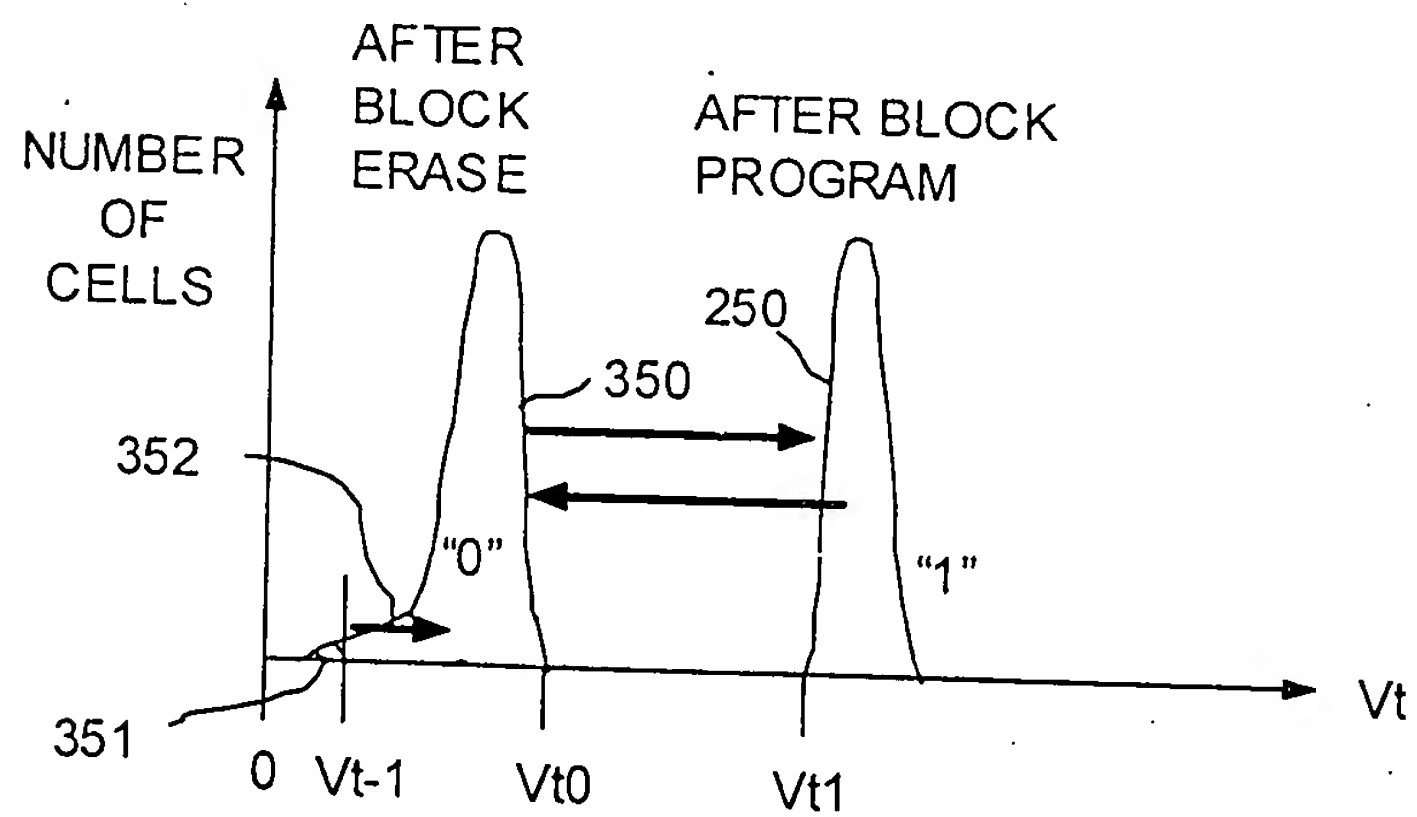


FIG. 41c

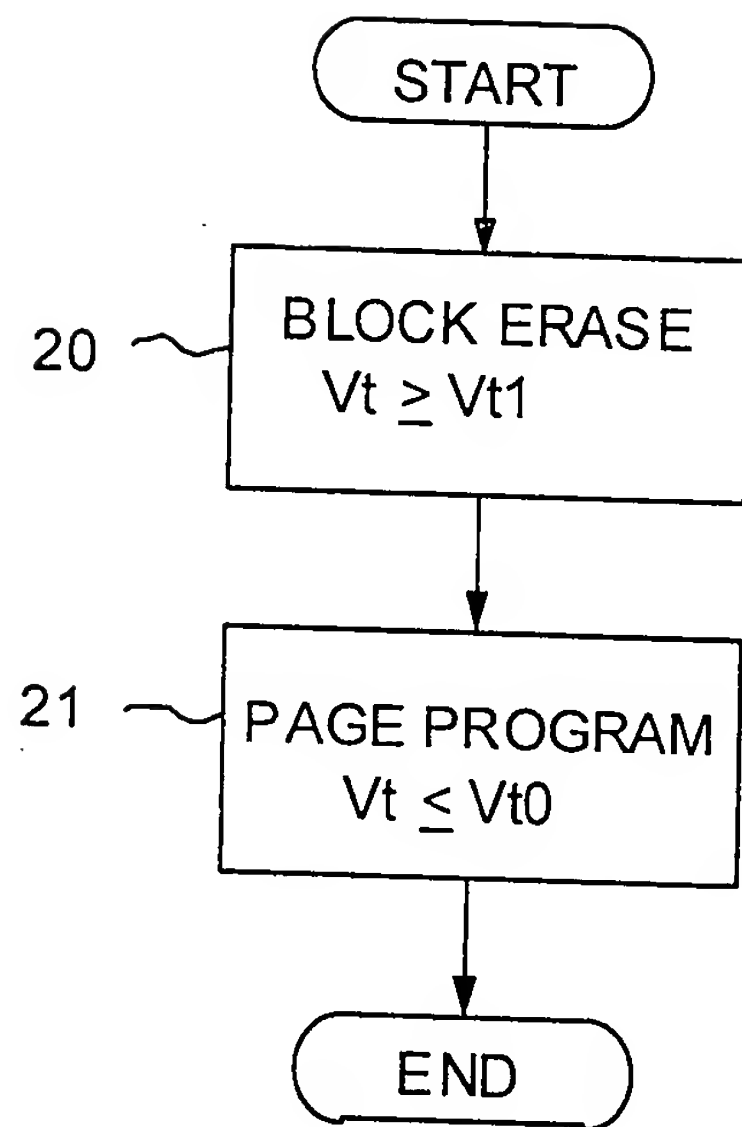


FIG.42a  
(Prior Art)

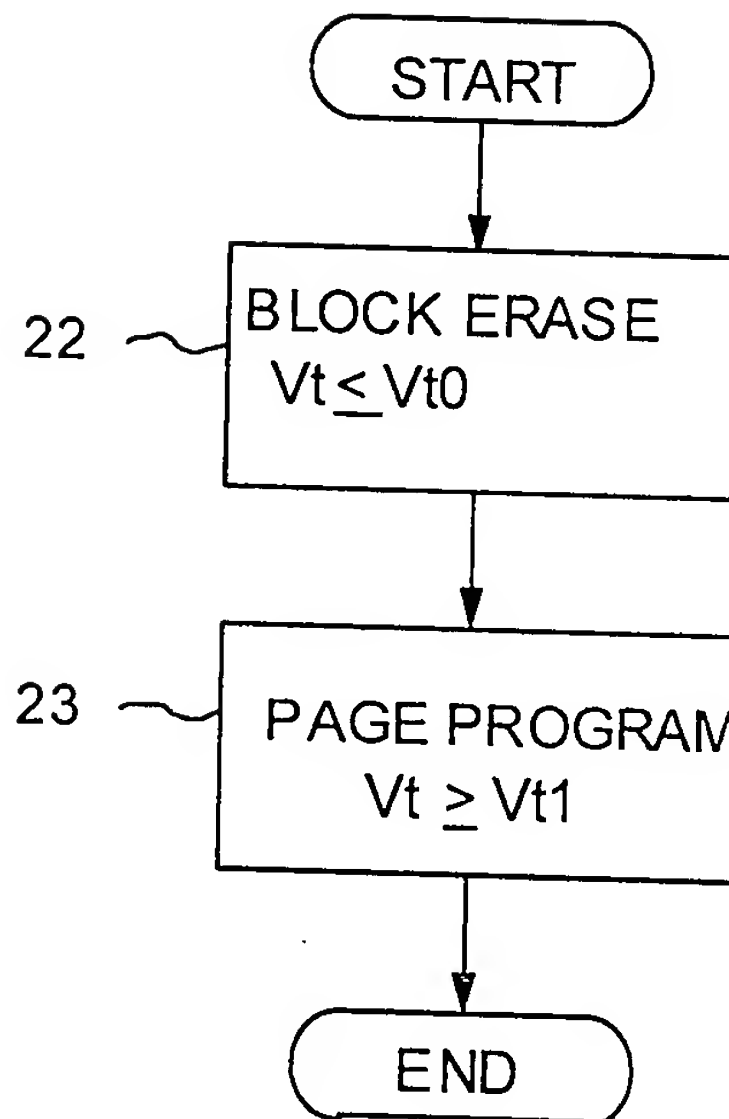


FIG.42b  
(Prior Art)



# BLOCK ERASE OPERATION

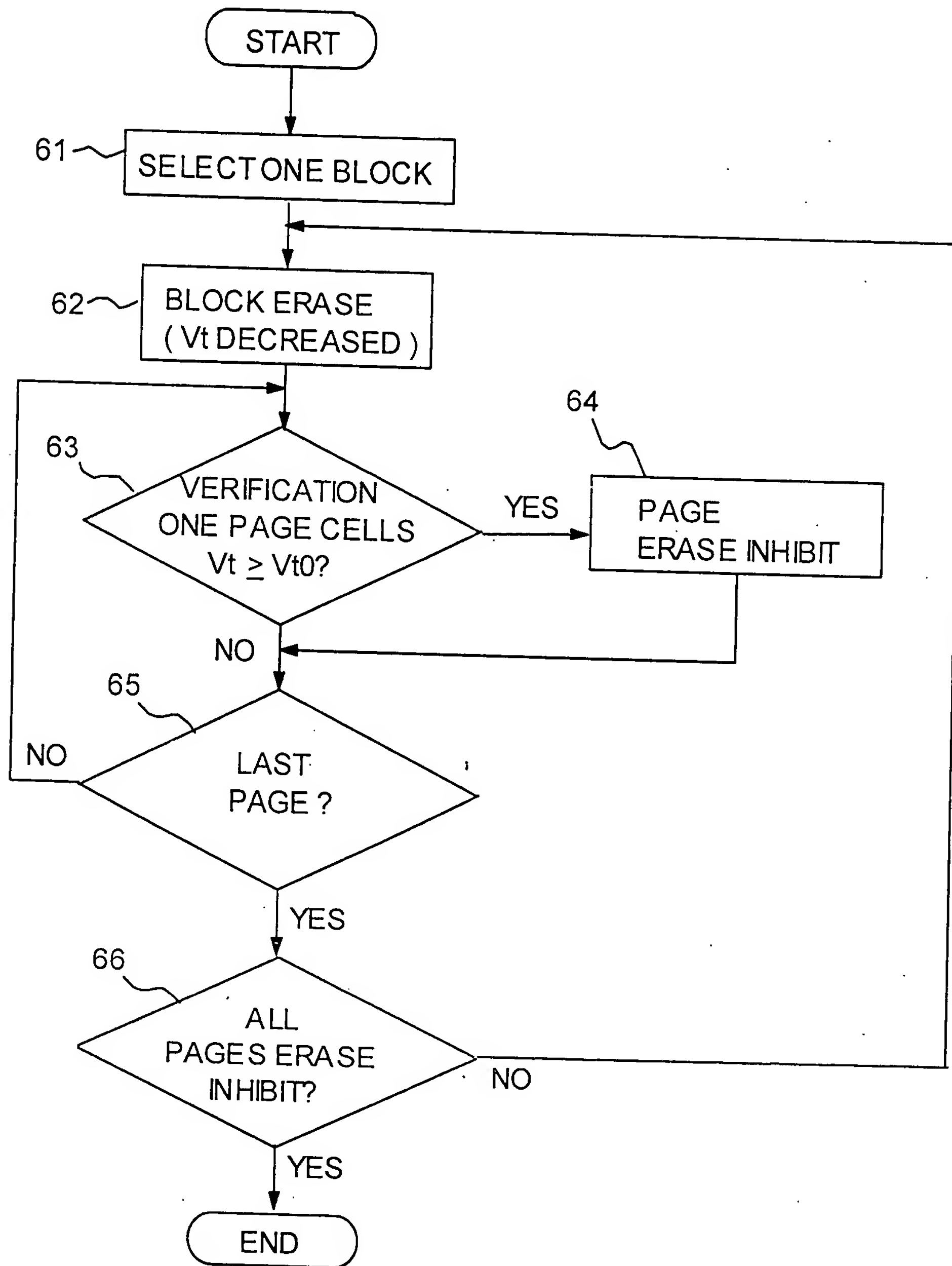


FIG. 43

# CORRECTION OPERATION

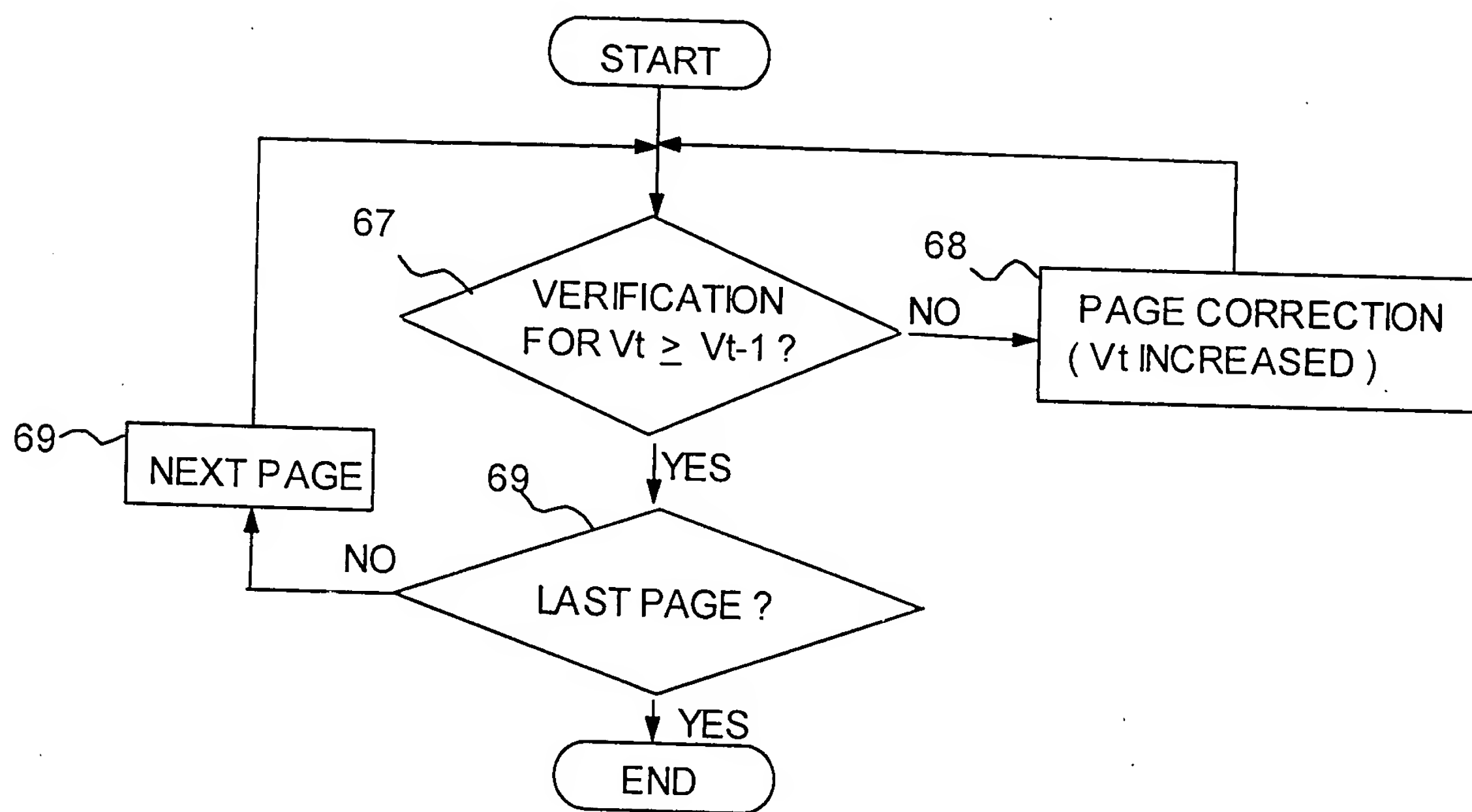


FIG. 44